THE

BANKERS' MAGAZINE,

AND

State Financial Register.

VOL. III. FEBRUARY, 1849. No. VIII.

THE LAW OF POPULATION AND MORTALITY AS EVIDENCED IN THE HEALTH-REPORTS OF BALTIMORE, MD.

BY J. H. ALEXANDER, ESQ.

THE Laws which regulate the mortality of the human race, constitute a subject for enquiry of the most general and deepest interest to the individuals of that race; and a research into their modifications and applications in any particular community may be justly expected not only to excite the active curiosity of all who are amenable to them, but to carry with it also indications and results of a character not less weighty than a concern of the well-being and prolongation of life itself. For the natural effect of such a research, after defining the existence and extent of the actual mortality and developing the causes which tend to promote it, must be a suggestion of the antagonist means to be resorted to for its diminution; and as morality and physical comforts in a community are the most efficient alteratives of the rate of mortality there, we have in this aspect of an investigation like the present, a wide foundation and a new stimulus for all the duties and efforts of benevolence and religion. I consult, therefore, my own taste as well as the interest and possibly the advantage of those who are subject with myself to a common law of Death, in instituting the enquiry and arranging the information that I have been able to collect.

It might seem at first that such collection would not imply any great difficulty to be encountered and overcome; and that the information easily acquired, would leave nothing to be desired for the solution of any question that might arise. But in point of fact, neither reflection nor experience shew this to be the case. Among all the functions imperfectly performed, not by our own Government especially, but all others, that of taking from time to time the census of their population is the most signal; and it is easy to see how inaccuracy in this—one of

the most important elements in the investigation—weakens both the spirit for and reliance upon subsequent deductions. It is not intended here, however, to indicate the inadequacy of the methods hitherto employed both in this country and elsewhere for taking the census, nor to speculate upon their probable improvement; it is enough to have referred to them. I have endeavored, by the nature and number of the combinations, to neutralize as far as possible the individual errors of the terms; and the accordant results given by different methods, may be regarded as not less reliable than the elements from which they were derived.

The inaccuracy in enumerating the actual population at any epoch is not attributable in the ascertainment of the current *increase* of such population; simply because no such ascertainment has been attempted. We have no register of Births. In other countries, that is to say among many of the European nations, this particular of essential importance in constructing Tables of Mortality, and serving in a stationary population where the annual increase by immigration is very small, as well as a check and test of the census-enumerations that are made at comparatively distant intervals—is arrived at by the register of Baptisms, which the secular or ecclesiastical laws of those countries require to be kept. With us, the latitude of religious opinion and belief precludes such a resort; for of the various religious societies here, some forbid a baptism except of adult parties altogether; only a few of those who prescribe it for infants, require their ministers to keep a regular list of the subjects of the rite; and still fewer present such lists by annual publication or otherwise, in a form accessible to a statistical inquirer. Under any circumstances, but especially under these, it would be not only competent but advisable for the secular Government to take this point—a registry of births—under its own provision and administration.

We are thrown, then, entirely (so far at least as the present field is concerned) upon Reports of Interments, which, when accurately ascertained, represent the annual *decrease* of the population. And in order to shew the character of these Reports, and to enable the reader to judge of the extent and reliability of the materials for information they afford, and of the appropriateness with which they have been applied to the present aim, I cannot do better than exhibit textually one of the very documents themselves. It is a report from the Board of Health, a mixed Directory of medical and lay-men under a resident Commissioner, of *Interments in the City of Baltimore, from the first day of January*, 1848, *to the first day of January*, 1849.

INTERMENTS—OF WHICH WERE

Months.	*Males.*	*Females.*	*Total.*	*Colored.*	*Free.*	*Slaves.*
January, ...	180	183	363	74	49	25
February, ...	175	164	339	67	44	23
March, ...	162	170	332	76	49	27
April, ...	153	138	291	71	52	19
May, ...	164	200	364	74	54	20
June, ...	202	191	393	68	47	21

Months.	*Males.*	*Females.*	*Total.*	*Colored.*	*Free.*	*Slaves.*
July,	342	296	638	133	97	36
August,	192	171	363	76	56	20
September,	156	140	296	64	50	14
October,	183	156	339	78	51	27
November,	126	134	260	72	52	20
December,	146	109	255	68	48	20
	2181	2052	4233	921	649	272

AT THE FOLLOWING AGES.

Still-born,	372	Between forty and fifty,	261
Under one year,	959	" fifty and sixty,	174
Between one and two,	471	" sixty and seventy,	152
" two and five,	503	" seventy and eighty,	128
" five and ten,	220	" eighty and ninety,	57
" ten and twenty-one,	207	" ninety and one hundred,	17
" twenty-one and thirty,	362	Over one hundred,	6
" thirty and forty,	349		

To this is added a classification of the individuals by number according to the alphabetical order of the diseases to which they are supposed to have succumbed;—an aspect not bearing upon our aim at present, and which, therefore may be omitted here. I shall offer some remarks, however, upon its results hereafter.

The numbers interred are learned by a weekly inspection of the lists of burials kept by each of the sextons of the different graveyards (or rather congregations) of the city. Those who are not carried to one or other of these yards, rest in the potter's field—a public cemetery intended for strangers, and which is under the control of the municipal authorities; and their number can of course be given with precision. As a class is made of the colored population, and a very proper division made between the free and the slaves of that class, it is to be regretted that the distinction of sex is not noted, also. Such a distinction would allow us to calculate the comparative probabilities of *female* life for both races, which cannot, as it is, be done for either; and thus furnish additional information upon a point whose data have hitherto been very variant.

The distribution of the deceased according to their respective ages, is made upon statements of like origin with those that give the total numbers. The wide interval between the given epochs diminishes, of course, the chances of error in the positive number for each; in all other respects, it is disadvantageous, as will be seen among other things by the complicated and laborious process which becomes necessary for its interpolation.

Such being the state of the documentary information, there is necessary first as a preliminary to any application of it, a Table constructed upon the actual census-returns for every tenth year, which shall exhibit the population, year by year. It is admitted now, that the increase or decrease of population (as the case may be, in any locality or district) follows for any interval a geometrical ratio; that is such a rate of continuous progression as was explained in an article in the last number of this Journal on the Interest of money. And if this rate were constant for all intervals, we would thus have a prompt and easy method of fill-

ing up such a Table as is wanted. But in point of fact the rate is not constant; and it would be unsafe, therefore, of application to any but very short intervals. The variation of rate and its behavior under different combinations that its calculation is susceptible of, will be best seen by an example taken from the census-returns for the several years of the whole population of the United States; as under

Years, . .	1790.	1800.	1810.	1820.	1830.	1840.
Population,	3.929.827	5.305.925	7.239.814	9.638.131	12.866.920	17.068.666

The rate per centum per annum corresponding to this progressive increase of population, and taking each term successively as the principal, (which is the simplest combination) appears respectively, as under

Years to	1800.	1810.	1820.	1830.	1840.	1850.	
From 1790, . .	3,048	3,102	3,036	3,010	2,981	2,703	per cent. per annum.
1800, . .	.	3,156	3,029	2,997	2,964	"	"
1810, . .	.	.	2,903	2,917	2,900	"	"
1820, . .	.	.	.	2,931	2,899	"	"
1830, . .	.	.	.	.	2,866	"	"
1840, . .	.	.	.	.	.	2,501	"
Means:	3,048	3,129	2,989¼	2,963¾	2,922		

The line of *means* shews the comparative constancy of the rate; which, although it is increasing up to 1810, is yet seen afterwards slowly to diminish. This is more emphatically accused by the numbers in the column under 1850; which represent the ordinate for that year, the curve of the population being supposed to sweep in a regular manner, and the ordinates for the other census-years being taken first in the horizontal column of 1790, and next in the vertical one of 1840, and in both cases using all five terms for the interpolation of the sixth. If we abandon the census of 1790 as having been made upon inadequate observation, and use the last four terms of the line of means, a similar interpolation would give 2,734 per cent. per annum as applicable to the period from 1840 to 1850. Although it is possible that this may be found not very far from the truth, still, as I have already said, a period of 10 years in a territory so extensive and so subject to perturbing influences as ours, is rather too long to be governed by any one uniform rate; and other more unexceptionable means should be resorted to for expanding this series.

If we apply, in the mean time, the same method to the census of Baltimore, we shall find it evidencing similar results and measuring itself through successive eras by a slowly-diminishing geometrical ratio. I have found it advisable, however, to disregard the census of 1790 and 1800, because of their admitted uncertainties; and I have had no opportunity of resort to the State Department, where possibly the uncertainty might be ascertained and removed. Taking then the returns for 1810 and onwards, we have as under:

Years, ...	1810.	1820.	1830.	1840.	1850.
Population, ...	46.555	62.738	80.625	102.313	129.899

The number representing the probable population for 1850 has been deduced from the others by a very expeditious and easy method of In-

terpolation, which I have explained in detail elsewhere.* Calculating, then, the rate per cent. per annum for the intervals respectively, we have as under:

Years to	1820.	1830.	1840.	1850.	
From 1810, ...	3,0283	2,7958	2,6594	.	per cent. per annum.
1820, ...	.	2,5401	2,4755	.	"
1830, ...	.	.	2,4109	.	"
1840, ...	.	.	.	2,4656	"
	3,0283	2,6679½	2,6152¾		

The actual rate from 1830 to 1840, as found here, will, if continued to 1850, give a result for the population but slightly differing ($\frac{1}{2000}$ nearly) from the preceding statement. The coincidence of these independent methods, authorises the more confidence in their results. The rate here placed under the year 1850, arises from a direct interpolation upon the three terms in the column of 1840; it is given among other things to indicate that unless some material change shall have taken place in the elements of our population, or in their modes of affection, its rate of progress is on the increase compared with the last ten years preceding 1840. The change, however, and its influence can be but slight, since we have for the

population in 1850, by direct interpolation, ... 129.899 souls.
" " by the actual rate in 1840, . . . 129.830 "
" " and by the partial rate, above . . . 130.530 "

Upon such a concurrence, I think it quite safe in calculating the population under the respective years of the Table to be given presently, not only to use the index of 1840 for the period from which it has been derived, but to extend it over the succeeding one. This, although not theoretically so proper under other circumstances, recommends itself here by dispensing with lengthened and laborious calculations; while the amount of error which it introduces in the absolute numbers for population hardly affects the fraction representing the proportionate mortality. In point of fact, such error at its extreme is only appreciable in the third place of decimals. For the period preceding 1830, however, in order to avoid the unsymmetrical break which would have occurred at that epoch in the annual difference of population, it was necessary to interpolate each successive term by the method already mentioned. With these explanations, the Table itself may now be presented as follows:

Table of the Population and of the absolute and relative Mortality in Baltimore for the years from 1826 *to* 1848, *inclusive.*

Years.	*Population.*	*Absolute No. of Deaths.*	MORTALITY. *Deaths* = 1.	*Living* = 1.
1826, ...	73.132	1922	1 in 38,1	0,0263
1827, ...	74.955	1498	50.	0,0200
1828, ...	76.811	1702	45,1	0,0222
1829, ...	78.700	1849	42,6	0,0235
1830, ...	80.625	2086	38,7	0,0259
1831, ...	82.569	2308	35,8	0,0280

* Silliman's Journal: Sec. Ser. No. 19. p. 14, etc.

Years.	*Population.*	*Absolute No. of Deaths.*	MORTALITY. *Deaths* = 1.	*Living* = 1.
1832,*	84.559	3572	23,7	0,0422
1833, ...	86.598	2405	36.	0,0278
1834,*	88.686	2747	32,3	0,0310
1835, ...	90.824	2050	44,3	0,0226
1836, ...	93.014	2373	39,2	0,0255
1837, ...	95.256	2714	35,1	0,0285
1838, ...	97.553	2691	36,3	0,0276
1839, ...	99.904	2431	41,1	0,0243
1840, ...	102.313	2236	45,8	0,0219
1841, ...	104.780	2448	42,8	0,0234
1842, ...	107.306	2655	40,4	0,0247
1843, ...	109.893	2522	43,6	0,0230
1844, ...	112.542	2879	39,1	0,0256
1845, ...	115.255	3107	37,1	0,0270
1846, ...	118.034	3251	36,3	0,0275
1847, ...	120.880	3795	31,9	0,0314
1848, ...	123.794	4233	29,2	0,0347
Means, .	96,969	2586	37,46	0,0267

The columns of relative mortality in this Table shew very capricious variations. But one observation may be made upon it, of interest to the community; viz. that since 1845, the mortality has been above the average of the whole twenty-three years, and has been for each of the last six years in a continually increasing ratio. That this result is not an apparent one only, which may arise from a possible error in the annual population in the sense of under-rating it, (as might be argued from the manifest improvement shewn in 1840 above 1830, both of which were census-years, and therefore more reliable, it may be presumed, in the numbers for population) will be manifest by dividing the whole period into groupes of nine years, the smallest number that can be symmetrically arranged, so that each groupe may contain the elements of a census-year. Thus arranged we have

Average Mortality for 9 years from			1826	to	1834 inclusive, . 1 in 38,03
"	"	"	1833	to	1841 " . 1 in 39,21
"	"	"	1840	to	1848 " . 1 in 38,47

The increased rate of mortality for the last period is equally observable in this as in the general statement; though of course the differences become less strongly marked in proportion to the number of groupes into which the whole term is divided. And in comparing the apparent improvement in the last period above the first, we must have regard to the fact that this first period includes two years of an epidemic—the cholera.

Should we consider it as less important to include a census-year in every groupe, we may arrange the whole period symmetrically into five groupes of 5 years each, with the following results:

*These were the years of the Cholera. The victims recorded in 1832 were in all 853; leaving 2719 as the mean mortality of the year, which corresponds to a proportion of 1:31,1 a rate not materially different from that of 1847.

1826—1830,	Average Mortality,	. . . . .	1 in 42,5
1830—1834,	"	"	1 in 33,5
1835—1839,	"	"	1 in 39,2
1840—1844,	"	"	1 in 42,3
1844—1848,	"	"	1 in 34,7

From this, one might infer that the rate of mortality was subject to circulating periods, at the end of which would be presented again the same factor nearly which occurred at the beginning. Thus, the factor for 1840–44 is almost identical with the rate which governed in 1826, fifteen years before. Such recurrences will be found justified, within certain limits, in a comparison of the general table. Is there any thing in the laws of human existence, by which the mortality of communities is connected with such a periodicity? The observations which are here given are of course far too restricted in time, number and place to afford any satisfactory answer to this question. But so far as an affirmative can be borne out by the analogy of individual life, it may be observed that this period of fifteen years coincides with all the crises in the Table of Mortality. For instance, at 15 years after birth, the ordinates of the curve of life (such ordinate being the reciprocal of the number dying out of a constant number at every age) have attained their maximum; thenceforward they diminish, the curve becomes of contrary flexure and finds another maximum at 30 years. From that point they go on constantly diminishing, but at 45 there is a stationary node where the flexure is again reversed; and finally at 60 and 75 years there appears to be *nodes of retardation* where the march of mortality is sensibly disturbed. I regret that neither the character of this paper nor the vehicle through which it is communicated, will allow me to dilate upon this point, which, if proved, will lead to a highly important generalization; or to present graphically the properties and peculiarities of the curve of life, that I have indicated. I will confess only further that, upon what has been said as well as from other considerations, I shall expect the average mortality of the next five years to be less than that which has been just found for 1844–48, and nearer approaching the rate that governed in 1835–39.

As my object here is only to present facts and plain inferences from them, I shall not speculate at any length upon circumstances which may have contributed materially to the sad disparity in the rate of mortality for the last five years;—I mean the influx of emigrants not elevated in social caste from other countries, and the discomfort, disease, excess, and consequent mortality in that portion of added population. According to the formula upon which the column of population in the general Table has been constructed, the amount of the immigrant increase of population for any year, is based strictly upon the experience of all the years preceding; and no extraordinary increase from such a source has been or can be assumed or allowed for. Nevertheless, it is probable from other considerations which do not submit themselves to calculation, that such extraordinary increase may have taken place in the last two years, and the numbers representing the aggregate annual population may be to that extent erroneous. There are no means within my reach of testing this; I have no list of the arrivals in this port of

immigrants during the period referred; nor, if I had, is there any indication or ascertainment of the ultimate sojourn or destiny of persons so arriving. All that can be done is to give the extreme probable error of the Table; which may be arrived at by applying the mean factor ($_{37\frac{1}{45}}$) of mortality. This factor is derived from a reasonably long experience and, if our populaton were stationary or increasing only by its own fecundity, might be very safely relied upon to give, when divided into the absolute number of deaths, the actual aggregate of the population. So divided, it would result in a population for 1848 of 168,570 souls; the difference between which and the number for the same year in the Table (34,776) shews the utmost probable amount of the immigrant population. That this amount should have been 35,000 souls even for the last five years, I confess I doubt; or rather, I disbelieve: and I apprehend that the census of 1850 will shew the Tabular number as it stands to be not materially in error.*

The mean factor for mortality corresponds with what might be expected from the geographical position of Baltimore—at least from that element of position, *Latitude*, by which climate is chiefly affected—compared with other cities. In illustration of this, I have arranged the following Table of the principal cities of Europe in the order of their latitude, and annexed to each (in view of the discrepancies of returns for different years) the maximum and minimum of its mortality according to the various statements that have been given. I include in this only one on the continent of America; the statistics of others are not accessible to me. I the rather hope that this research of mine may stimulate other enquirers with better means, to investigate the mortality of the other principal cities in the United States at least.

Of course, the comparison is to be made only between *cities;* and, if possible, between such as have nearly equal populousness. For it is admitted that other things being equal, the mortality of rural districts is always less than of their metropolis and towns. There are a few exceptions to this, which only tend to confirm the rule. Thus for instance, five-sevenths of the city of Rome (or perhaps it might be said, the whole city) enjoys a higher freedom from mortality than the adjoining Campagna. But this is plainly to be accounted for; and the unhealthiness of the Campagna and the proverbial fatality of the Pontine Marshes (although both districts may in one sense be said to be in a state of *nature*) are attributable to circumstances that are justly to be considered *artificial*, i. e. controllable by the skill and artifice of man.

*Since writing the above I have received the following information; which does not materially change the view of the text.

ARRIVALS AT THE PORT OF BALTIMORE.

	Foreigners.	*Citizens.*		*Foreigners.*	*Citizens.*
1827, ...	1477	318	1833, ...	5339	344
1828, ...	1741	570	1834, ...	7463	494
1829, ...	2074	470	1835, ...	3843	342
1830, ...	4084	519	1836, ...	5268	333
1831, ...	4381	661	1837, ...	5941	634
1832, ...	11414	532	1838, ...	4909	598

If the unfortunate Pius IX. had applied his remarkable talents and earlier influence to this aim, instead of the mere problematical and hazardous experiments of political reform, there is no question but that posterity would have classed him with more unanimity among the benefactors of our race; and as little, that he would hardly have been ever, as now, among that band of illustrious exiles whom Europe has so lately seen departing from their former seats.

And in regard to equality of populousness as affecting the results of comparisons between cities, it is presumable that physical discomfort and immorality—the most efficient aids of Death—find always scope more ample in proportion as the subjects are more dense.

I now present the Table spoken of, in which the latitudes are given only to the nearest minute:

Table shewing the influence of Latitude upon the rate of Mortality.

Groups.	*Place.*	*Latitude.*	MORTALITY = 1 in *Min.*	*Max.*	*Gen. Mean.*
	Petersburg,	59° 56′ N.	34,9	37.	
	Stockholm,	59 21	24,3	24,9	
	Glasgow,	55 52	46,8	46,8	
	Moscow,	55 46	33.	33.	
	Copenhagen,	55 41	30,3	30,3	
55° to 60°,					1 in 34,2
	Berlin,	52 32	25.	34.	
	Amsterdam,	52 22	24.	31.	
	London,	51 31	40.	51,9	
	Dresden,	51 3	27,7	27,7	
	Brussels,	50 51	25,5	26.	
	Prague,	50 5	24,4	24,5	
50° to 55°,					1 in 30,2
	Paris,	48 50	30,1	32,5	
	Vienna,	48 13	22,5	22,5	
	Lyons,	45 46	32.	32,3	
45° to 50°,					1 in 28,7
	Bordeaux,	44 50	29.	29.	
	Leghorn,	43 33	31.	35.	
	Rome,	41 54	24,1	24,4	
	Barcelona,	41 22	24,8	27.	
	Naples,	40 50	28,6	28,6	
	Madrid,	40 25	35.	36.	
40° to 45°,					1 in 29.3
	Lisbon,	38 42	28,2	31,1	
	Palermo,	38 7	32.	33.	
	Baltimore,	39 17	37,5	37,5	
35° to 40°,					1 in 33,7

It appears from this that a high northern latitude is favorable to a low rate of mortality: that at the mean parallel, the mortality is the greatest; and that then it is liable to a diminution until the tropics are reached. Within the tropics there are no reliable data; but it is generally admitted that the mortality is there greater than in the temperate zone. This is instanced in two cases on the American Continent, viz:

	Queretaro. Lat. 20° 36 N.	Mortality 1 in 26,4
	Guanaxato. 21 0	1 in 29,9
Latitude 20°—21°		Mortality 1 in 23,1.

These statements all relate to the northern hemisphere; for similar ones in the southern, there are no reliable data.

As the object of this Table is mainly to shew the regularity of natural laws when viewed in a sufficient generalization, I have designedly introduced into the several groupes, instances where though the limiting parallels are the same, yet the other elements of climate, height above the sea, shelter, aspect, &c., are materially variant. Thus Madrid, for example, a city situated inland on a steppe some 2,000 feet above the level of the ocean, and exposed to chilled and piercing winds, might be expected to have a very different climate from Leghorn or Naples, which are near the level of and tempered by the sea. Yet unfavorable as its position in some regard might seem to be, its mortality is, in point of fact, low compared with the rest of its groupe and corresponds with the results already found for higher latitude with which high elevations are to a certain extent interchangeable. In strict theory, all these elements of level above tide, mean temperature, mean moisture, exposure, &c., &c., find their place in determining the climate and the natural mortality of any locality; and in any popular discussion even of this point specially, it would be necessary at least to have determined the principal isothermal and isohygral lines (under which the mean annual temperature and dew-point are the same) of the globe. But such a discussion would be too extensive for any present scope; and I shall therefore only farther in connection with this point offer some results as to the *influence of the Seasons* upon the mortality here.

The health-returns furnish the numerical mortality for every month; and upon those numbers I have constructed, for each year, the following Table; giving throughout, the month in which the number of deaths was the greatest, that in which it was the least, and those in which it comes the nearest to the annual mean (or twelfth part) of the whole annual mortality.

Table of Mortality according to the Months.

Years.	*Max.*	*Min.*	*Mean.*	*Years.*	*Max.*	*Min.*	*Mean.*
1826,	July,	Nov.	Aug.—Oct.	1838,	July,	June,	Jan.
1827,	July.	May,	April.	1839,	Sep.	May,	Dec.
1828,	July,	April,	Mar. Oct. Nov.	1840,	Aug.	May,	June—Dec.
1829,	Aug.	May,	January.	1841,	No returns.		
1830,	Aug.	Feb.	June.	1842,	"	"	
1831,	Aug.	April,	February.	1843,	July,	Feb.	Dec.
1832,	No returns.			1844,	July,	Oct.	Sep.
1833,	July,	Feb.	Dec.	1845,	July,	March,	Oct.
1834,	Aug.	May,	Mar.	1846,	Mar,	Dec.	Nov.
1835,	Aug.	April,	Jan.	1847,	Aug.	Feb.	March.
1836,	Aug.	June,	Feb.	1848,	July,	Dec.	Jan.—Aug.
1837,	July,	Dec.	May.				

From a table so detailed as this, we can say with certainty, that the maximum of mortality occurs in July and August; once only it passed over into September, and once was translated to March. The minimum, though not so well defined, is seen in April and May; and July is the only month which is not found in one year or another to conform to the mean. But if we arrange the number of deaths according to the *seasons*

of the year, marked as they are by unequal distribution of temperature and moisture in the atmosphere, we shall find the annual mortality, with but few exceptions, conforming to the indications of these atmospheric affections. The season whose thermometric and hygrometric condition is the most variant from the mean of the year is that of greatest mortality; and that in which the atmosphere approaches most nearly to its normal state (which we may consider as shewn by the annual mean, and still more when that mean is derived from a number of consecutive years) presents the absolute mortality as the lowest. The other seasons correspond with the same indications.

As I have not the data for the atmospheric means through the period in question, I can only make comparison with those for the year 1836, which I have already used elsewhere for another purpose.* The seasons are the *Spring*, comprehending the months of March, April and May; the *Summer*, corresponding to June, July and August; the *Autumn*, including September, October and November; and the *Winter* which coincides with December, January and February. By this arrangement, in taking out the number of deaths for any year, that belonging to December is entered under the succeeding year. And as the years are not continuous in this respect, I have found it proper to divide the series into three groupes which are in a certain sense symmetrical. For greater illustration, I have inverted the natural order; so as to present the Summer and Autumn of each year and period, before the Winter and Spring,

Table shewing the absolute number of Deaths (from 1 *Dec.* 1826 *and onwards as under) in Baltimore, distributed according to Seasons and the corresponding conditions of the Atmosphere.*

	ABSOLUTE MORTALITY.				ATMOSPHERE.		
Seasons.	1827–31.	1834–40.	1844–48.	*Total.*	*Barom. in*	*Thermom.*	*Dew-point.*
Summer, . .	2969	4973	5264	13206	29,923	71°,7	60°,8
Autumn, . .	2381	4364	3922	10667	29,967	51, 7	38,
Winter, . . .	2093	4064	3918	10075	30,017	29, 3	14, 7
Spring, . . .	1956	3856	4116	9929	30,003	50, 8	32, 9

The atmospheric means from observations for a longer period, may be stated at 30 in. for the barometer, and 51° and 35° for the thermometer and dewpoint respectively. The determination of this last is, however, more doubtful; since it depends in part upon the indications of the dry and wet thermometers. They may be taken nevertheless as sufficiently accurate for the present purpose; and the Table then evinces, what was said before, that *the nearer the atmosphere is to its normal state, the less is the mortality.* The periods, then, of extreme variations in pressure, temperature and moisture under a given climate, are those which are attended with the greatest mortality. How far the *suddenness* of those variations influences the result is a question which principally concerns the physiologist; but I regret, that I have not the means of offering at present some actual observations on this point also.

Such a rule as has been just stated, reposing upon physical causes of great generality, may be expected to govern throughout, and to be

*Second Report on the Manufacture of Iron, etc. p. 139.

manifested as well in respect to the *daily* variations of the atmosphere as under such as are observed and averaged for periods more extensive. But in regard to this point—the influence of the *hours of the day* upon mortality—we are here absolutely without observations; while those that have been made elsewhere, as in Brussels and Hamburg, rest upon too few instances to be relied on. It would seem from these last, that the hours between midnight and morning (6 A. M.) witness the greatest number of deaths; and that in general, more deaths occur at night than in the day-time.

Leaving this point for future investigators and better means, I pass on to another upon which we have here some statistics, and which is in itself of great interest—the *influence of Race* upon mortality. The population of Baltimore as constituted at different epochs, I give in the following Table; accompanied with a statement of the absolute, relative and proportional mortalities of the two races which compose it.

	POPULATION.		MORTALITY.						
			ABSOLUTE.		RELATIVE.		PROPORTIONAL.		
	White.	*Black.*	*White.*	*Black.*	*White.*	*Black.*	*White.*		*Black.*
1830, .	61.615	18.911	1519	567	1 in 40,6	1 in 33,4	1	:	1,216
1840, .	81.147	21.166	1712	524	1 in 47,4	1 in 40,4	1	:	1,173
Increase,	2,79 pr. ct.		1,13 pr. ct.		1,2 pr. ct.		per annum for 10 years.		
Decrease, ...			0,79 pr. ct. per ann.		"		ratio 3,52 pr. ct.		

From this it appears that the increase of the black population, has been at less than one-half the annual rate of augmentation of the whites; and that while the absolute mortality between the two epochs corresponds to an annual increase at 1½ per cent. for the whites, for the blacks it is represented by an actual decrease, equivalent 8-10 per cent. per annum. The column of relative mortality, shew that the life of the black race in 1840, was as stable as that of the white in 1830, owing (it may be supposed) to a change in physical circumstances operating upon both though not in equal degrees; for the last column gives 3½ per cent. nearly, more improvement in the stability of life (or *vitality*) of the black race than of the white. Finally by a combination of the proportions given, we are authorised to conclude that this stability of life is for the two races at a mean, as 44 is to 36,9 in favor of the white race. How much of this disparity is due to physiological differences, i. e. to *race*, and how much is to be attributed to *caste*, i. e. social and personal relations and comforts, it does not form part of my purpose to enquire; even if I had the data upon which to solve the question.

The periods in the above statement are restricted to two epochs, because they are the only two census-years included in the bills of mortality, available. These give the direct enumeration of the different elements of the population; which for any other epochs could only be made out by similar calculations to those employed for the aggregate population—a labor that does not seem to me essential to repeat. The results as obtained will probably command the reliance of a majority of readers, all the more for their having been obtained by direct instead of inferential methods.

Methods of this last kind, however, find proper scope and indeed are

necessarily to be resorted to in illustration of another point connected with the colored population, viz. the *influence of Condition* (i. e. emancipation or otherwise) upon the mortality of that race. We have registers, distinguishing the annual number of deaths of the slaves and of the emancipated, for the whole period from 1826 to 1848, with the exception of the year 1832. The absence of returns for this year destroys the continuity of the series, and makes necessary that it be broken up into a number of corresponding groupes; which I have done, with as much symmetry as the case allowed, in the following Table, intended chiefly to shew the proportion which the numbers of deaths in the two conditions bear to the aggregate mortality.

Periods of 6 years each.	*Aggregate Mortality.*	*Number of Deaths.*		*Proportioned to the Aggregate Mortality = 1.*	
		Free.	*Slave.*	*Free.*	*Slave.*
1826—1831	11.365	2547	564	0,224	0,050
1833—1838	14.980	3319	693	0,222	0,046
1838—1843	14.981	2967	779	0,198	0,052
1843—1848	19.787	3391	1027	0,171	0,052
Aggregates, . .	55.902	11.226	2782	Means: 0,201	0,050

The preceding Table shewed an improvement from 1830 to 1840, in the stability of life of the entire black population; this one shews that it has been gradual and progressive from 1826 to the present time, and that it is confined to the free portion of that population. The proportion of slave-deaths in the whole mortality, has been visibly constant.

No statement of the relative mortality of the two classes is given; because it could only be derived from and apply to two years out of the whole series; and the results, as exhibited by the numbers of those years, would be entirely fallacious if drawn into a general conclusion; since the class of slaves is neither progressive from year to year, nor permanent in any one year. A considerable number annually is transferred to other States. It is from them, besides, that the emancipated class which is on the increase, is continually receiving important additions. Such transitions, by which the same individual comes, within two years, to belong and to be counted in both classes, renders of course the number of the living in either at any time, (unless duly corrected) an inaccurate factor in the proportion. These transitions, which we residing here understand very well, will be manifest to others abroad by the following statements from the three last censuses; where the difference in numbers after the usual age of emancipation (which corresponds also to the period of greatest physical activity and value) is very distinctly marked.

	Aged between	*Free.*	*Slave.*	*Survivors.*
1820,	14 years—26 years.	2509	1557	
	26 " —45 "	2784	932	1378
1830,	10 " —24 "	4118	1815	
	24 " —55 "	5953	1269	1451
1840,	10 " —24 "	4917	1451	
	24 " —55 "	7490	1003	1191

The last column shews the number that would probably survive from the average younger to the average older life, according to the Carlisle

Tables. The diminution, then, of the actual numbers at each older life is attributable to some other agency than mere mortality; and the difference between the given and the calculated number, is a function at least of the correction which must be applied to the numbers of slaves living, in order to ascertain the relative mortality of the class.

There is another circumstance, too, connected with this which would affect the factor of relative mortality; viz. the preponderance in number of the slaves under the age when the stability of human life is in general the greatest. Thus, by the census of 1820, (the last which defines the number at this term,) those under 14 years of the free and the slave, were respectively 0,338 and 0,362 of the aggregate of each class. To deduce a factor, then, from the aggregate merely, would be to burden the latter class disproportionately with the hazards and accidents and mortality, that belong to the period of infancy and childhood.

In conclusion upon this point of the influence of race, it only remains to present the elements of the correction by which the relative mortalities in the General Table, may be made applicable to the white race only.

We have then from the three last censuses, the numbers for the following statement:

	POPULATION.		RATIO.		
	White.	*Black.*	*White.*		*Black.*
1820,	49.291	14.683	1	:	0,298
1830,	61.615	18.911	1	:	0,307
1840,	81.147	21.116	1	:	0,261
1850, calculated,	107.897	21.296	1	:	0,197
Mean ratio of White to Black population, ...			1	:	0,266

The mean ratio of the relative mortalities of the two races has been already given, as 44 to 36,9 or 1 : 0,839.

Dividing and summing these proportions, we have a final ratio between the two, of 1 : 1,0403; or in general 4 per centum, as the correction to be applied to the several terms in the columns of relative mortality (additively or subtractively, according as the first or the last may be employed) in order to give at a mean the relative mortality of the white race only. Applying this to the ultimate mean in the General Table, of 1 in 37,5 for the aggregate population; we have 1 in 39, as the probable proportion attributable to the whites. If we use the same elements in a suitable manner, we shall have 14,7 per cent., as the correction to be applied conversely for the exclusive mortality of the other race. Used with the ultimate mean as before, we have 1 in 32 very nearly, as the relative mortality among the colored people alone.

These calculations and corrections may seem at first sight to be tedious on the one hand and to have been fastidious on the other; but they are, in fact, rendered necessary by the limitations which, as I have already remarked, the form of our Health-returns imposes upon the elements of another question of interest more extensive than our own community merely—I mean, the *influence of Sex* upon mortality. The deaths reported are divided into male and female; but this division is

not made with distinction of races; and therefore, I have been obliged to supply, by comparative and inferential methods, the defect of the existing data themselves.

Not to cumber these already greatly extended pages with numerical details that are not absolutely essential, I have grouped the results of all the years for which there are returns, according to the tolerably symmetrical periods into which the deficiencies divide them, into the following

Table of the absolute and proportionate Deaths of the Sexes for different periods.

	NUMBER OF DEATHS.		PROPORTION.	
	Males.	*Females.*	*Male.*	*Female.*
First Period, 1826—1831,	6352	5013	1	0,78920
Second Period, 1833—1840,	10532	9115	1	0,86546
Third Period, 1843—1848,	10213	9574	1	0,93743

The numbers in the last column accuse a gradually increasing ratio in deaths of females; which is also borne, when regard is had to the probable population of the two sexes respectively at the given periods. I have established such probability upon the following statements taken from the census.*

	1820.		1830.		1840.		1850 calculated.	
	Number.	*Propor.*	*Number.*	*Propor.*	*Number.*	*Propor.*	*Number.*	*Propor.*
Males,	31.489	1.—	37.949	1.—	47.371	1.—	59.755	1.—
Females,	32.485	1,03164	42.577	1,12195	55.042	1,16193	69.880	1,16941

Taking the above proportions, two and two, successively, we obtain a mean; which may be assumed to govern for the intervals, and so becomes applicable to the foregoing periods, to correct the proportion of deaths by combining them with the ratio of the respective population. We thus arrive at the following

Table of the proportionate Mortality of Females (that of Males being Unity) for the Periods just now given.

	1826–31.	1833–40.	1843–48.
Proportion of Deaths,	0,78920	0,86546	0,93743
Proportion of Population,	1,07679	1,14194	1,16567
Proportionate Mortality,	0,73292	0,75789	0,80420

The mean of these three last terms, is 0,765 very nearly; and we are warranted, therefore, in assuming that for every 1000 males who may have died during the last twenty-three years in Baltimore, there have died also, but 765 females.

A similar result, though not numerically the same, will be evidenced if we resort for its determination to the proportions belonging to the two years (1830 and 1840) where we have a direct enumeration of

* The sum of the numbers for 1820 and 1830 in this statement, will be found to differ slightly from the aggregates given before in the General Table, and used for the interpolations. It was not until I came to this part of the enquiry, that I had occasion to resort to the details of the census, and to be aware of the inaccuracies which occur in the additions there for those years. The differences, however, are not sufficiently serious to have required my going over my work again; and I only mention them here as a caution to future enquirers.

the sexes to compare with the number of deaths in each. For illustration, I offer such a comparison in the following

Table of the Relative Mortality of the Sexes in 1830 *and* 1840.

	1830.				1840.			
	Population.	*Deaths.*	*Rel. Mor.*	*Prop.*	*Population*	*Deaths.*	*Rel. Mor.*	*Prop.*
Males, . .	37.949	1211	1 in 31,3	1000	47.371	1209	1 in 39,2	1000
Females, .	42.577	875	1 in 48,7	643	55.042	1027	1 in 53,6	731
Aggregate,	80.526	2086	1 in 38,6		102.313	2236	1 in 45,8	

The proportionate mortality of females is smaller in this than in the preceding statement; as might be expected to occur in years, both which are above the average mortality. Taking, however, the actual proportion of the aggregate deaths of males and females, (viz. 100 : 79) and the average female population at $\frac{1}{4}$ above the male; we shall have 20 per cent., as the correction to be applied, in the sense of diminution, to the aggregate relative mortality of the General Table, in order to have the factor for the relative mortality of the female sex; and 15 per cent. nearly, the correction to be used conversely for ascertaining the characteristic factor for the male sex, in each year given in the Tables.

And, I suppose, with these may be combined the correction already given for the difference in race, in order to ascertain the relative mortalities of the white and colored females respectively, as well as those of white and colored males, from the aggregate ratio in the Table. Using these, with their appropriate signs, upon the aggregate factor of mortality already deduced, viz. 1 in 37,5, we are enabled to make the following paradigm:

Relative mortality of	aggregate population, ...	1 in 37,5
Do.	Do. white males, ...	1 in 31,9
Do.	Do. white females, ...	1 in 45
Do.	Do. colored males, ...	1 in 30,4
Do.	Do. colored females, ...	1 in 43,5

These numbers are as approximate as can be deduced, until the returns distinguish the *sexes* as well as the *deaths* of the colored population. From what has been said, it will plainly appear that the distinction of *caste* in regard to this race, (i. e. whether emancipated or not) although of interest in itself, is not, if we must choose between the two, of equal importance to be retained.

The great difference of mortality shewn here in favor of females, transcends very much that recognized hitherto in Europe; when the ratios are taken upon the aggregates of each sex respectively at all ages. There, the proportion of deaths, male and female, is inversely very nearly the same as of male and female births; the difference in both cases being about 5 per cent. on the male factor. Here, the difference appears to be nearly four times as great. If one were called on to account for this difference, it could only be in part by referring to the different social position of the female sex on the two continents. For instance, in England and Wales even, but more especially in Continental Europe, females are habitually employed in severe bodily labor and exposures which are here rarely required from them; and this, without regard to the peculiar infirmities and indispositions to which the weaker sex is characteristically liable. But on the other hand, it may be answered, and

with reason, that this consideration only applies to the lower classes, born *amid* and therefore, it may be alleged, *for* labor; while the physical education of females in the upper classes throughout Europe, but especially in England, is vastly more calculated for healthy developement and therefore longevity, than the habits of either class here.

But however this may be, it is very well known and admitted that the disparity of male and female mortality is very much under the domain, (at least under the influence) of *age;* and it is much to be desired, therefore, that our own Health-returns should discriminate between the sexes in this particular. Such a discrimination would add nothing to the labor of ascertainment; for sex is much more unmistakeable than age; and the proverbial antipathy of females to developements on this last point, may be supposed to control only the living and to cease at and after death.

Besides the interest for the physiologist and statist in this improvement in the form of our Health-returns, there is an additional stimulus to it in the new and lately widening field for the employment of capital in Life-assurance; where data of this sort, derived from and applicable to our own community, would be peculiarly acceptable. Up to this time, the assurance of lives here has been, in great part or entirely, based upon observations made elsewhere under circumstances of numbers, climate, locality, social and national habits, &c., very different from what operates here; if they do not accurately apply, then, there can be no occasion for surprise. And rarely, if at all, in any of the Institutions for this purpose, is there any regard paid to the sex of the applicant; although it is not to be doubted but that according to different periods, female life is now more, now less, insurable than that of males.

In illustration of this, and to indicate the existing state of knowledge on the subject, I have prepared and present here a summary of the observations on it by Mr. Quetelet, for Belgium. I do not think it necessary to retain the minute differences of ages which this writer has given, being desirous rather to groupe the results in their greatest generality of physical aspect; and I have equally omitted the distinction between inhabitants of towns and of rural districts, since although it is at some periods very emphatic yet in the aggregate means there is, after all, very slight difference.

Table shewing the Proportionate Mortality of Males and Females at different epochs of life.

Age.	*Male Deaths.*		*Female Deaths.*
Still-born,	1,52	:	1.
From 0 to 1 year.	1,22	:	1.
1 to 5	1,0	:	1.
5 to 14	0,92	:	1.
14 to 18	0,79	:	1.
18 to 26	1,06	:	1.
26 to 30	0,93	:	1.
30 to 40	0,75	:	1.
40 to 50	0,97	:	1.
50 to 60	1,13	:	1.
60 to 70	1,01	:	1.
70 to 80	0,98	:	1.
80 to 100	0,80	:	1.

Although it is not probable that precisely these numerical proportions would hold good with us, yet they are in general so conformable to the laws of physical developement as to leave little doubt of their exemplification wherever the sexes are collected in sufficient numbers together. Thus, even before age is counted at all, the male fœtus, larger than the female, more capacious in his requirements and more demanding in his needs, is all the less likely to have those needs supplied from that maternal being whom sickness, accident, compliance with the taste and fashion of society, and a thousand things may tend to render weaker still. So, during the period of lactation, the male infant is more likely than the female, to find his natural nourishment stinted. These probabilities are evinced in the proportions of the Table; by which, before or at birth one-half, and before one year old one-fourth more males than females die. From one to five years, when children are less immediately dependent on the mother, the difference of sex disappears; the more rapid developement of the girl supplies a vigor equal to the boy's. Thence, from second dentition to puberty, the girl's weaker frame causes her to succumb the more readily. From puberty to the period when her organization is completely developed and she is said in most countries to be *of age*, the burden of her double system causes a marked disparity in her chance of life. Between 18 and 26 years (the average epoch of marriage) the period of the passions, it is the stronger, wilder sex, that pays for its greater irregularities and more frequent gratifications with a greater outlay of life; while from 26 to 50, the period of fecundity, the perpetuation of the race is too often purchased with the existence of the mother. From 50 to 70, the woman has lost the most of her characteristic pathological type; if her organism is more frail, it is at least less exposed to hardship or trial; and, with a weaker physical constitution, her habitually greater temperance and domesticity afford her a higher chance for existence. From this last age, the two sexes may be said to have become confounded; persons of either arrive at and surpass it, in virtue of individual strength of constitution or of accessory habits and circumstances which create and support a claim for life; and although the absolute number of female deaths exceeds that of males, their relative mortalities are nearly or quite the same.

These considerations upon the varying relations of the sexes at different epochs carry us by an easy transition to one of the most important modifications of the subject,—I mean, the *influence of Age* upon mortality. This, which has hitherto been the chief element employed by mathematicians in their discussions upon the probabilities of Life, and it may be said, the one exclusively referred to in the practical application of those probabilities to Assurance of Lives, must (as is plain from what has been said) now be combined with other elements in order to attain a safe and reliable conclusion as to the type of the human race and the laws of life and mortality which govern average Man. It was, therefore, necessary that the consideration of the principal of these other points should precede what is to be said on this, which will be taken up in the next Number.

XUM

GOLD HUNTING.

From Washington Irving's Life of Columbus.

Before relating the return of Columbus to Hispaniola, it is proper to notice some of the principal occurrences in that island, which took place under the government of Ovando. A great crowd of adventurers of various ranks had thronged his fleet: eager speculators, credulous dreamers, and broken down gentlemen of desperate fortunes; all expecting to enrich themselves suddenly, in an island where gold was to be picked up from the surface of the soil, or gathered from the mountain brooks. They had scarcely landed, says Las Casas, who accompanied the expedition, when they all hurried off to the mines, which were about eight leagues distance. The roads swarmed like ant-hills, with adventures of all classes. Every one had his knapsack stored with biscuit or flour, and his mining implements on his shoulders. Those hidalgos, or gentlemen, who had no servants to carry their burdens, bore them on their backs, and lucky was he who had a horse for the journey; he would be able to bring back the greater load of treasure. They all set out in high spirits, eager who should first reach the golden land, thinking they had but to arrive at the mines, and collect riches: 'for they fancied,' says Las Casas, 'that gold was to be gathered as easily and readily as fruit from the trees.' When they arrived, however, they discovered, to their dismay, that it was necessary to dig painfully into the bowels of the earth, a labor to which most of them had never been accustomed; that it required experience and sagacity to detect the veins of ore; that in fact, the whole process of mining was exceeding toilsome, demanding vast patience, much experience, and after all being full of uncertainty. They digged eagerly for a time, but found no ore. They grew hungry, threw by their implements, sat down to eat, and then returned to work. It was all in vain. 'Their labor,' says Las Casas, 'gave them a keen appetite and quick digestion, but no gold.' They soon consumed their provisions, exhausted their patience, cursed their infatuation, and in eight days set off drearily on their return, along the roads they had lately trod so exultingly. They arrived at San Domingo, without an ounce of gold, half famished, downcast, and despairing.* Such is too often the case of those who ignorantly engage in mining: of all speculations the most brilliant, promising and fallacious.

Poverty soon fell upon these misguided men. They exhausted the little property they had brought from Spain. Many suffered extremely from hunger, and were obliged to exchange even their apparel for bread. Some formed connexions with the old settlers of the island, but the greater part were like men lost and bewildered, and just awakened from a dream. The miseries of the mind, as usual, heightened the sufferings of the body. Some wasted away and died broken hearted; others were hurried off by raging fevers, so that there soon perished upwards of a thousand men.

*Las Casas, Hist. Ind. L. 2, C. 6.

BANKS OF BALTIMORE.

Resources and Liabilities of the Banks of Baltimore, 1 January, 1849, compiled for the Bankers' Magazine from the Official Statements.

RESOURCES.	*Loans.*	*Stocks.*	*Real Estate.*	*Specie.*	*Bank Balances.*	*Bank Notes.*	*Presidents.*
Merchants Bank,	$1,898,260	$154,984	$25,000	$272,267	$100,535	$108,300	James Swan.
Bank of Baltimore,	1,534,760	22,126	15,625	237,246	141,562	17,811	James H. McCulloh.
Union Bank,	1,223,631	19,258	95,658	160,893	84,341	89,758	John M. Gordon.
Farmers and Planters Bank,	1,028,597	. . .	. . .	238,992	77,308	75,450	William E. Mayhew.
Mechanics Bank,	1,011,146	6,500	8,500	142,296	63,500	52,673	John B. Morris.
Commercial and Farmers Bank,	857,210	58,231	34,674	227,710	146,759	. . .	Thomas Meredith.
Farmers and Merchants Bank,	445,447	133,150	8,890	77,700	9,486	18,931	J. Hanson Thomas.
Chesapeake Bank,	463,618	147,654	22,210	90,454	28,876	66,991	John S. Gittings.
Marine Bank,	434,788	73,140	23,208	73,512	21,070	17,214	Jacob Bier.
Western Bank,	595,878	. . .	19,975	262,331	48,482	99,905	Chauncey Brooks.
Franklin Bank,	314,978	17,183	56,931	22,508	2,883	18,948	John J. Donaldson.
Total Resources,	$9,808,313	$632,226	$310,671	$1,805,909	$724,802	$565,981	

LIABILITIES.	*Capital.*	*Circulation.*	*Deposits.*	*Dividends Unpaid.*	*Bank Balances.*	*Profit & Loss.*	*Cashiers.*
Merchants Bank,	$1,500,000	$162,225	$339,164	$47,543	$362,222	$148,192	Daniel Sprigg.
Bank of Baltimore,	1,200,000	182,526	358,233	. . .	148,794	96,474	C. C. Jamison.
Union Bank,	916,350	147,539	306,908	34,653	237,375	50,714	Robert Mickle.
Farmers and Planters Bank,	600,625	383,357	264,890	22,918	99,553	49,004	Thomas B. Rutter.
Mechanics Bank,	590,844	189,753	428,764	2,640	25,194	47,420	James W. Allnutt.
Commercial and Farmers Bank,	512,560	162,370	352,803	4,848	181,620	110,383	Trueman Cross.
Farmers and Merchants Bank,	393,560	121,582	118,304	3,694	9,036	47,428	John Loney
Chesapeake Bank,	340,577	89,867	262,100	17,235	78,633	31,391	James Lowndes.
Marine Bank,	310,000	104,681	177,268	. . .	30,633	20,350	Philip Littig, Jr.
Western Bank,	308,280	255,489	166,824	1,434	282,096	12,448	James H. Carter.
Franklin Bank,	301,550	48,778	54,671	9,838	507	17,787	Aquila P. Giles.
Total Liabilities,	$6,974,646	$1,948,167	$2,929,929	$144,803	$1,455,663	$631,591	

Recapitulation of the condition of the several Banks of Baltimore on the 1 *January* 1847 *and* 1849.

LIABILITIES.	1 *January*, 1847.	1 *January*, 1849.
Capital,	$6,969,329	$6,974,646
Undivided Profits,	701,291	631,591
Circulation,	1,990,639	1,849,167
Bank Balances,	959,014	1,455,663
Individual Deposits,	3,367,732	2,974,732
Total Liabilities,	$13,988,005	$13,884,799

RESOURCES.	*January*, 1847.	*January*, 1849.
Loans and Stocks,	$10,746,533	$10,440,539
Real Estate,	379,467	310,671
Specie,	1,814,312	1,805,909
Bonus, *Union Bank*,	24,000	20,000
Bonus, *Bank of Baltimore*,	16,897	16,897
Bank Notes,	592,936	565,931
Bank Balances,	413,860	724,802
Total Resources,	$13,988,005	$13,884,799

The returns for January, 1848, will be found on page 508, volume second. There is a remarkable evenness in the items of circulation, deposits, loans and specie: and there is not that increase which the enlarged business, capital and population of Baltimore, would seem to require.

There is as large an amount of coin on hand at Baltimore as at Boston, where the circulation is nearly five millions, and where nearly the whole circulation of New England is redeemed.

The Bank circulation of Virginia, enters largely into the business of Maryland, displacing the notes of the City and Country Banks of the latter State.

The following comparative view of Circulation and Coin in the several Cities will afford food for reflection.

	Bank Capital.	*Circulation.*	*Coin in Banks.*
Boston,	$18,980,000	$4,900,000	$1,880,000
New York,	24,000,000	7,000,000	6,600,000
Philadelphia,	9,220,000	5,000,000	3,000,000
Baltimore,	6,970,000	1,800,000	1,800,000
Charleston,	9,150,000	3,500,000	950,000
New Orleans,	17,600,000	6,000,000	7,600,000

The entire Bank circulation of the United States, may be estimated at $125,000,000, and the coin in the Banks at $60,000,000.

The latest returns from the Banks of Great Britain, as contained on page 488, of this No., show a circulation in England, Scotland and Ireland, equivalent to $150,000,000, or $5½ per head; and coin in the Banks of about $100,000,000.

BANKS OF MASSACHUSETTS.

From the Annual Abstract furnished to the Secretary of State, September, 1848.

DUE FROM THE BANKS.	26 *Banks in Boston.*	86 *Banks out Boston.*	*Total,* 112 *Banks.*
Capital Stock paid in,	$18,980,000	$14,005,000	$32,985,000
Circulation of $5 and upwards,	4,180,922	6,626,370	10,807,192
Circulation less than $5,	770,411	1,618,425	2,388,837
Net profits on hand,	2,419,650	1,317,783	3,737,434
Balances due other Banks,	3,866,998	216,652	4,083,650
Deposits,	5,779,350	2,315,620	8,094,970
Cash deposited bearing Interest,	351,212	118,804	470,016
Total,	$36,348,443	$26,218,656	$62,567,099
RESOURCES.			
Gold and Silver,	$1,885,805	$692,225	$2,578,030
Real Estate,	688,265	384,851	1,073,116
Bills of other Banks in this State,	1,898,176	232,402	2,130,578
Bills of Banks elsewhere,	153,101	53,138	206,239
Balances due from other Banks,	1,635,020	1,834,014	3,469,034
Loans,	30,088,076	23,022,026	53,110,102
Total,	$36,348,443	$26,218,656	$62,567,099
DIVIDENDS.			
In October, 1847,	$620,800	$402,370	$1,023,170
In April, 1848,	702,800	474,895	1,177,695
Reserved profits at last Dividend,	1,497,823	821,849	2,319,673
Debts secured by pledge of its Stock,	551,708	406,568	958,276
Debts considered doubtful,	18,010	171,019	189,030

Comparative view of the condition of the Banks of Massachusetts, 1846, 1847, 1848.

LIABILITIES.	*October,* 1846.	*Septem.* 1847.	*Septem.* 1848.
Capital,	$31,160,000	$32,113,150	$32,985,000
Circulation,	14,591,914	17,196,362	13,196,029
Profits,	2,504,136	3,499,583	3,737,435
Bank Balances,	5,285,015	7,263,282	4,083,651
Deposits,	10,360,649	11,030,270	8,564,985
Total,	$63,901,714	$71,102,647	$62,567,100
RESOURCES.	*October,* 1846.	*Septem.* 1847.	*Septem.* 1848.
Coin on hand,	$3,054,755	$3,943,954	$2,578,030
Real Estate,	1,098,000	1,062,950	1,073,117
Bank Notes,	2,854,755	3,263,463	2,336,918
Bank Balances,	5,568,088	5,571,240	3,469,035
Loans, Stocks, &c.	51,326,114	57,260,940	53,110,100
Total,	$63,901,713	$71,102,647	$62,567,100

The circulation and deposits have diminished twenty-five per cent. during the twelve months, and the coin reduced one-third.

INDIANA.

Comparative view of the Liabilities and Resources of the State Bank of Indiana and Branches, 1846, 1847, 1848.

LIABILITIES.	*Novem.* 1846.	*Novem.* 1847.	18 *Nov.* 1848.
Capital Stock owned by the State,	$935,854	$963,054	$982,404
Do. do. by individuals,	1,147,970	1,114 820	1,100,506
Circulation,	3,336,533	3,606,452	3,552,210
Due to the State,	89,535	134,200	81,646
Bank Balances,	47,886	34,545	82,293
Individual Deposits,	409,989	555,774	452,625
Dividends Unpaid,	31,832	25,710	21,581
Fund to cover Losses,	413,563	453,444	527,800
Profit and Loss,	23,819	77,176	125,454
Balances between Branches,	73,309	69,148	71,418
Total Liabilities,	$6,510,290	$7,039,324	$6,997,937
RESOURCES.	*Novem.* 1846.	*Novem.* 1847.	18 *Nov.* 1848.
Bills Discounted,	$1,659,353	$1,574,722	$1,647,622
Bills of Exchange,	1,359,385	1,464,076	1,791,321
Suspended Debt,	577,647	460,115	442,602
Bank Balances,	803,065	1,081,195	227,040
Balances between Branches,	68,534	81,272	148,642
Real and Personal Estate,	349,790	373,461	382,076
Funds in Transitu,	113,578	247,698	231,156
Sinking Fund and Treasury Notes,	419,310	337,555	241,106
State of Indiana Bonds,	36,000	36,000	71,000
Notes of other Banks,	119,976	299,250	147,451
Coin on hand,	1,003,647	1,083,980	1,273,896
Eastern Funds,			394,025
Total Resources,	$6,510,290	$7,039,324	$6,997,937

MICHIGAN.

Condition of the Michigan State Bank, January 1st, 1849.

RESOURCES.			
Judgments and Notes in suit—value Jan. 1, 1849,			$2,876
Bonds and Mortgages,	" "		24,226
State Stock,	" "		8,053
Real Estate,	" "		18,077
Capital Stock of the Bank,			1,050
Furniture in Banking House,			557
Michigan Central Rail Road Bonds,			54,900
Bills Discounted,			206,166
Other Securities,			31
CASH—			
Coin,		$58,326	
Bank Notes,		5,894	
Checks on other Banks,		320	
Deposits with Banks and Bankers,		84,822	149,363
			$465,302
LIABILITIES.			
Capital Stock,		$148,700	
Profit and Loss,		16,350	
Liabilities prior to 1839,		4,414	
Banks,		83	
Deposits,		100,156	
Circulation,		195,598	
			$465,302

EXPENSE OF A CURRENCY CONSISTING OF THE PRECIOUS METALS.

The imposition of a moderate seignorage has, however, but a very inconsiderable effect in reducing the expense of a metallic currency. This, which is much greater than is generally imagined, does not consist in the coinage, which is comparatively trifling, but in the great amount of gold and silver required for the purpose. If, for example, the currency of Great Britain consisted wholly of gold, it would amount to at least fifty millions of sovereigns; and if the customary rate of profit were six per cent., it would cost three millions a year. For had this fifty millions not been employed as money, it would have yielded six per cent. or three millions a year, of nett profit to its possessors. But this is not the only loss.

The fifty millions would not merely be withheld from the great works of production, and the country deprived of the revenue derived from its employment, but it would be perpetually diminished.

The wear and tear of the coins is by no means inconsiderable; and supposing the expenses of the coinage were defrayed by a moderate seignorage, the deficiency in the weight of the old worn coins must, on their being called in to be recoined, be made up by the public. There is, besides, a constant loss from shipwrecks, fire, and other accidents. When due allowance is made for these causes of waste, it would not, perhaps, be too much to suppose, that a country, which had fifty millions of gold coins in circulation, would have annually to import the hundredth part of this sum, or half a million of coins to maintain its currency at its proper level.

Thus it appears, that were the customary rate of profit in Great Britain six per cent., it would cost 3½ millions a year to maintain fifty millions of gold coins in circulation. It is indeed true, that a reduction of the rate of profit would proportionally reduce the amount of this expense, though as the reduced expense would still bear the same proportion to the total income of the country that the higher expense did, the real cost of the currency would not be at all diminished.

The case of France furnishes a still more striking example of the heavy charges attending the general use of a metallic currency. The amount of the gold and silver currency of that kingdom has been estimated by Necker at 2,200 millions of francs, and by Peuchet at 1,850 millions. (Statistique Elementaire de la France, p. 473.) Now, supposing the lowest estimate to be the most correct, and taking the rate of profit at six per cent., this currency must cost France an hundred and eleven millions of francs a year, exclusive of the wear and tear and loss of the coins, which being taken, as before, at the hundredth part of the entire mass, will make the whole annual expense amount to the sum of an hundred and twenty-two millions of francs, or to nearly five millions sterling. This heavy expense certainly forms a very material deduction from the advantages resulting from the use of a currency consisting entirely of the precious metals, and has doubtless been the chief cause why all civilized and highly commercial countries have endeavored to fabricate a portion of their money of less valuable materials.

THE BANK OF DANSVILLE.

Extracts from the unanimous Report of the Committee on Banks and Insurance Companies of the Assembly of New York, April, 1847—against the petition for an investigation into the affairs of the Bank of Dansville, an association established under the General Banking Law of 1838.

The committee on banks and insurance companies, on the reference of the petition of sundry inhabitants of Livingston county, relative to the investigation of the affairs of the Bank of Dansville,

REPORTS—That they have had the same under consideration, and have given the subject a careful and patient investigation, so far as the time under their control would allow, aided by the arguments of able and distinguished counsel, as well on the part of the petitioners as on the part of the bank, on the various questions of law and of fact, arising in the case.

Before considering the principles involved in this matter, it may be well, briefly to advert to the facts presented in the papers before the committee.

The allegations on the part of the petitioners, are, in substance:

1st. That the president of the bank was guilty of fraud and collusion in the foreclosure of a certain mortgage, given to the bank as security for stock.

2d. That certain of the stockholders endorsed and delivered to the cashier, their scrip or certificates of stock, intending the same to be cancelled, and received in return their respective mortgages cancelled. And that the bank subsequently made dividends, and voted upon said stock, and finally sold the same as valid subsisting stock, contrary to the understanding and intention of the parties surrendering the same.

3d. That the president or cashier, or both, were guilty of fraud in the advertisement and sale of certain stocks pledged to the bank as security for loans.

4th. That the board of directors, in 1844, refused to suffer a committee appointed at a meeting of the stockholders, to examine as fully as they desired, the affairs and management of the bank.

5th. That the bank failed to carry out an agreement, made by the cashier with one of the stockholders, to receive from such stockholder his bond and mortgage, in exchange for certain notes held by the bank.

To these are added various amplifications and general charges of fraud and malpractices on the part of the bank; but the above is believed to be the substance of the charges specifically made.

In answer to these charges, is a full and complete denial by the president and cashier of each and every of the charges against them, respectively, accompanied with various affidavits, certificates, and remonstrances, by the directors, stockholders, and others; and among others, it is a little remarkable, that more than one fourth of all the petitioners appear from time to time on the other side, in the attitude of remonstrants against any legislative interference, or certifying to the good character, conduct and management of the officers of the bank, and to

its sound and healthful condition; and two of them in their memorial say, that at the time of signing the petition, they did not read the whole of it, nor understand its object or purport, and that on subsequently reading it, they found it contained many slanderous and malicious reflections on individuals, as well as some charges which they *knew* to be untrue, and many others which they believed to be so.

Add to this the fact that this controversy has existed for several years; that petitions and remonstrances on the subject have been presented to three successive Legislatures: that three several annual elections of directors have taken place since most of the acts complained of are alleged to have transpired; that during all this time, as well as at the time of the alleged misconduct, some one or more of the petitioners have been in the board of directors, and that between some of the principal movers of this application, and the president and cashier of the bank, exist a near family relationship; and it is impossible to doubt, that much of the controversy is of a personal character; and like most personal and family quarrels, has lost nothing of its asperity by lapse of time.

On a simple review of these facts, presented in the papers, two questions presented themselves to the committee.

First. Has the Legislature any power or authority, on sufficient cause shown, to grant the relief sought by direct legislative enactment, aimed at a particular institution, formed under the general law, and dissolving or striking it out of existence?

Second. Supposing the power to exist, is it expedient and proper for the Legislature to take upon itself the investigation and decision of such, or any similar matters, clearly within the cognizance of the judicial tribunals of the State?

In the solution of the first of these questions, in addition to the arguments of the counsel, your committee have been favored with the opinion of the Attorney-General, furnished in compliance with a resolution of the House, and which is hereto annexed, marked "A." They have also looked into the report of the committee of the Senate on the same subject in 1845, and the two counter reports made by the committee of the House in 1846. It is conceded by counsel on both sides, and the Attorney-General is understood in effect to make the same concession, that whatever power belongs to the Legislature in the premises, must either have been reserved in the general banking law itself, or reserved or conferred in some other prior legislative enactment; and clearly any argument upon the supject must be based upon such hypothesis, as the exercise of any power not so reserved or conferred, would be palpable violations of the first subdivision of the 10th section of the first Article of the Constitution of the United States, which provides that "no State shall pass any law impairing the obligation of contracts."

The opinion of the Attorney-General, above referred to, (and which embraces substantially all the propositions contended for on the part of the petitioners,) labors chiefly to establish the following propositions, to wit:

First. That associations formed under the general banking law, are corporations.

Second. That being corporations, such associations are necessarily subject to the provisions contained in the 8th sec. of title 3, chap. 18, of the First Part of the Revised Statutes, which provides that "the charter of every corporation that shall hereafter be granted by the Legislature shall be subject to alteration, suspension and repeal, in the discretion of the Legislature."

Third. That the right reserved by the Legislature in the 32d sec. of the general banking law, "at any time to alter or repeal that act," is sufficiently broad and comprehensive to authorize the dissolution or repeal of a particular association formed under it.

These propositions, though emanating from a source entitling them to great consideration, and although reasoned with the usual ability of their distinguished author, and fortified by the citations of copious authorities, are nevertheless, in the opinion of your committee, to be received with some degree of allowance and qualification.

The committee are well aware that the court of last resort, as well as the Supreme Court, has repeatedly decided that these associations are corporations for certain purposes, and within the intent and meaning of certain statutes, yet in the same decisions in the Court of Errors, they are uniformly held not to be corporations, within the intent and meaning of the 9th section of the 7th article of the then Constitution of the State, which provides that "the assent of two-thirds of the members elected to each branch of the Legislature shall be requisite to every bill *creating, continuing, altering* or *renewing any body politic or corporate*," thus recognizing the principle, that an association or partnership may exist, possessing all the essential elements of a corporation, and yet not be a "corporation chartered by the Legislature," in the legal technical application of those terms.

It might be sufficient for our present purpose, to say, that such is the decision of the highest court of judicature known to our laws, Warner vs. Beers, 23 Wend. 103, Gifford vs. Livingston, 2 Denio 380, the People vs. De Baw, 2 Denio., (not yet published.) But inasmuch as the action of this Legislature will affect not merely the Bank of Dansville, but involves an important principle affecting the general banking and business interests of the State, and may go far to establish a precedent for future legislation, your committee having listened to a very learned and elaborate exposition of this principle on either side, deem it proper to state the reasons on which their conclusion is, and the decisions of our courts seem to be based. * * *

But it is said to be one of the duties of government or of the sovereign, to furnish the people with a currency. And hence it is inferred, that every act tending to that end, is necessarily an act of sovereign power. If this be true, then have the governments of this country, both State and National, been grossly remiss in the discharge of this important duty. None of them have ever done, or attempted to do, anything more for this purpose, than to endeavor by wholesome regulations, to protect the people against imposition and loss from the circulation of spurious or unsound currency, in the same manner as they have endeavored to prohibit the furnishing of unsound meats or impure water; yet your committee believe it has never been regarded as the

duty of government to furnish the people with meat or with water. These, as well as currency, are furnished by the people, individually or by companies, to themselves and to each other, and the only aid they ask or require at the hands of the government, is protection, as against theft or robbery.

The terms "grant," "charter," "franchise," are not exclusively or peculiarly applicable to corporations. The same are equally applicable to a great variety of the business transactions, rights, privileges, and immunities of the people at large. The term "grant," as heretofore used in reference to legislative action, applies to a single act—thus we say a grant of land; a grant of a right to erect a bridge or dam across a public stream; a grant of corporate priviliges or franchises; a grant of a charter. But a relinquishment on the part of the whole people, in their collective capacity, of certain rights, privileges and franchises, to each and every of the people individually, can scarcely, in the opinion of your committee, be properly called a grant, and differs widely, both in theory and in fact, from the practice of conferring similar rights, priviliges and franchises, by a king, reigning by divine right, and the acknowledged source and centre of all power, prerogative, privilege and franchise. * * * * * *

The general law was intended to establish a new and complete system of banking. It depended not on rules and regulations made in reference to special legislative charters; but provided all that seemed necessary to carry out the system, all the securities and safeguards provided for the protection of bill holders under the old system, had been found inadequate to afford perfect safety, it was found difficult if not impossible, to provide absolute security to both bill holders and depositors, and it was believed the latter had the means of taking care of themselves, because a deposit of money for safe keeping was a voluntary act, whilst the former were practically compelled to take the currency afloat as the only means of carrying on business with ordinary advantage. Hence, the general law provided what was deemed *absolute security* for bill holders, leaving depositors to look out for themselves in the same manner as other persons secure their money in loans or other investments; under the old system, the Legislature prescribed nearly all the modes and forms of organization, designated officers and the manner of their election, while the general law left these matters almost exclusively to the associates, as in all partnership business, the general law made provisions to secure the *public* as far as possible against any loss or imposition, and nothing beyond. In the case of individual bankers, the same security has been provided, and nearly the same provisions to secure and preserve the interests of the public, as in the case of associations. * * * * * *

Great apprehension and alarm are expressed, on the part of the petitioners, at the probable consequences to follow, from the Legislature disavowing any power to dissolve one of these institutions. There are about 70 banks in the State, formed under this general law, with an aggregate capital of about 12 or $13,000,000; and "it is a startling proposition (say the counsel) that this immense amount of capital is above or beyond the control of the Legislature."

And yet there are hundreds of millions embarked in the business of agriculture, commerce and manufactures, over which the Legislature has never, to the knowledge of your committee, possessed, or claimed to possess, any right of control, except through the action of general laws, equally applicable to all. Indeed, a single individual in the State is supposed to possess a capital equal to at least double the aggregate capital of all these banks; yet the Legislature has never claimed the right of enacting special laws to control the management of the person or property of that individval.

It is conceded that great aggregate wealth carries with it great power and influence; and it is not doubted that such power may be, and often is, in the hands of unprincipled men, made the instrument of wrong and oppression; yet we do not, therefore, discourage the increase of wealth, nor, indeed, its aggregation for legitimate and useful purposes. But for the aggregated wealth of that great mother of corporations, the State, we never should have had the Erie canal, and but for the aggregated wealth of these lesser corporations, no steamboat would ever have ridden or rail car run, upon our public highways, to aid the profit or convenience of the people of the State. These institutions as much as any other, distinguish us from the unskilful wild men, who preceded us in the occupation of this territory. They are based upon great general principles, and none other than such should ever be invoked, for their regulation or dissolution. * * * *

Now if the precedent is to be established, of entertaining the consideration of such subjects by the Legislature, the hundred days session contemplated by the new Constitution, will scarcely be sufficient to dispose of such complaints alone. The principle once established, and rumor or suspicion admitted as a proper ground of inquiry, and every ambitious stockholder failing to be elected a director, and every dealer failing to obtain the discounts he requires—every dishonest man who is compelled to pay his note—every malicious individual who may have a private pique against an officer of the bank, will rush to the Legislature, heralding common rumors and suspicions, and clamoring for Legislative investigation; and who can fail to perceive the effects that must necessarily follow from such a course of proceedings. The very life and soul of banking institutions is public confidence and credit. Can such confidence survive a legislative decision, that sufficient evidence of malpractice existed to authorize a suspension of the common law of the land, and a resort to summary legislative interference, for the more speedy or effectual administration of justice? In the judgment of your committee, very few of the best managed institutions of the State could stand the test of such an assault.

Your committee are fully satisfied from all the facts and circumstances brought before them, that the Dansville Bank is a sound and solvent institution, and is so managed as not to endanger the public interests. They therefore beg leave to offer the following resolution:

Resolved: That the prayer of the petitioners ought not to be granted.

A. K. Hadley, E. Crosby,
J. H. Dewitt, J. J. Gallup, } *Committee.*
W. Maxwell,

THE BANK OF ENGLAND.

The following sketch of the successive renewals of the charter of the Bank, of the conditions under which these renewals were made, and of the variations in the amount and interest of the permanent debt due by the English government to the Bank of England (exclusive of the dead weight) we take from the Encyclopedia Britannica.

1694. The charter of the Bank of England, granted under the Act 5 and 6 William III., c. 20, redeemable upon the expiration of twelve months' notice after the 1st August, 1705, upon payment by the public to the Bank of the demand therein specified.

Under this Act the Bank advanced to the public £1,200,000, in consideration of their receiving an annuity of £100,000 a year, viz. eight per cent. interest, and £4,000 for management, £1,200,000 0*s.* 0*d.*

1697. Charter continued by 8 and 9 William III., c. 20, till twelve months' notice after 1st of August, 1710, on payment, &c.

Under this Act the Bank took up and added to their stock £1,000,171 exchequer bills and tallies.

1708. Charter continued by 7 Anne, c. 7, till twelve months' notice after 1st of August, 1732, on payment, &c.

Under this Act the Bank advanced £400,000 to government without interest; and delivered up to be cancelled £1,775,027 17*s.* 10*d.* exchequer bills, in consideration of their receiving an annuity of £106,501 13*s.* being at the rate of six per cent., £2,175,027 17*s.* 10*d.*

1713. Charter continued by 12 Anne, stat. I., cap. 11, till twelve months' notice after the 1st of August, 1742, on payment, &c.

In 1716 by the 3d George I., c. 8, the Bank advanced to Government, at five per cent. . . . . £2,000,000 0*s.* 0*d.*

And by the same Act, the interest on the exchequer bills cancelled in 1780, was reduced from six to five per cent.

In 1721, by 8 George I., c. 21, the South Sea Company were authorized to sell £200,000 government annuities, and corporations purchasing the same at 26 years' purchase, were authorized to add the amount to their capital stock. The Bank purchased the whole of these annuities at 20 years' purchase, ... £4,000,000 0*s.* 0*d.*

Making the public debt in 1721, ... £9,375,027 17 10

Five per cent. interest, was payable on this sum to midsummer 1727, and thereafter four per cent.

At different times between 1727 and 1738, both inclusive, the Bank received from the public, on account of permanent debt, £3,275,027 17*s.* 10*d.*, and advanced to it on account of ditto, £3,000,000: Difference, ... £275,027 17*s.* 10*d.*

Debt due by the Public in 1738, ... £9,100,000 0 0

1742. Charter continued by 15 George II., c. 13, till twelve months' notice after the 1st of August, 1764, on payment, &c.

Under this Act the Bank advanced £1,600,000 without interest, which being added to the original advance of £1,200,000, and the

£400,000 advanced in 1710, bearing interest at six per cent., reduced the interest on the whole to three per cent. . . £1,600,000 0*s.* 0*d.*

In 1745, under authority of 19 George II., c. 6, the Bank delivered up to be cancelled £986,000 of exchequer bills, in consideration of an annuity of £39,472, being at the rate of 3 per cent., £986,000 0*s.* 0*d.*

In 1749, the 23d George II., c. 6, reduced the interest on the four per cent. annuities, held by the Bank, to three and a half per cent. for seven years from the 25th of December, 1750, and thereafter to three per cent.

1764. Charter continued by 4 George III., c. 25, till twelve months' notice after the 1st of August, 1786, on payment, &c.

Under this Act the Bank paid into the exchequer £110,000, free of all charge.

1781. Charter continued by 21 George III., c. 60, till twelve months' notice after the 1st of August, 1812, on payment, &c,

Under this Act the Bank advanced £3,000,000 for the public service for three years, at three per cent.

1800. Charter continued by 40 Geo. III. c. 28, till twelve months' notice after the 1st of August, 1833, on payment, &c.

Under this act the Bank advanced to government £3,000,000 for six years without interest; but in pursuance of the recommendation of the committee of 1807, the advance was continued, without interest, till six months after the signature of a definitive treaty of peace.

In 1816, the Bank, under authority of the Act, 56 George III., c. 96, advanced at three per cent., to be re-paid on or before the 1st of August, 1833, ... £3,000,000 0*s.* 0*d.*

Debt in 1846, ... £14,686,000 0 0

1833. Charter continued by 3 and 4 William IV, c. 98, till twelve months' notice after the 1st of August, 1855, with a proviso that it may be dissolved on twelve months' notice after the 1st of August, 1845, on payment, &c.

This Act directs, that in future the Bank shall deduct £120,000 a year from their charge on account of the management of the public debt; and that a fourth part of the debt due by the public to the Bank, or £3,638,250, be paid off, ... £3,638,250, 0*s.* 0*d.*

Permanent advance by the Bank to the public, bearing interest at three per cent., independent of the advances on account of dead weight, or other public securities held by her, . . . £11,047,750 0*s.* 0*d.*

1844. Renewal of Bank Charter, 7 and 8 Victoria, c. 32. This Act divides the Bank into two departments, viz: an *Issue Department* and a *Banking Department;* and limits the amount of Bank paper that may be issued, upon other securities than gold, to fourteen millions. This Act also limits the issues of country banks, whether upon gold or any other security, to the average of the twelve weeks, ending April 27—about eight millions.—[Ed. B. M.]

Usury Laws.

The Act of 1840, (2 and 3 Victoria, c. 37,) exempts all bills of exchange and loans above £10 on personal securities from the operation of the Usury Laws. Loans upon real estate still limited to five per cent

THE BANKS OF GREAT BRITAIN.

Our readers will find in our last volume a Recapitulation of the aggregate Currency of each State in the Union. We now add a similar condensed view of the Bank Note Circulation and Coin of Great Britain, November, 1848.

	Actual Circulation.	*Authorised Circulation.*	*Coin.*
Bank of England, ...	£17,500,000	£27,000,000	£14,000,000
185 Private Banks, as per list, .	3,700,000	4,880,000	2,000,000
67 Joint Stock Banks, ...	2,600,000	3,400,000	1,000,000
18 Scotch Banks, ...	3,100,000	3,087,000	923,000
8 Irish Banks, ...	4,500,000	6,354,000	1,492,000
	£31,400,000	£44,721,000	£19,415,000

A list of Country Banks doing business in Great Britain, November, 1848, *including the Private and Joint Stock Banks of England, Scotland and Ireland, with the amount of Circulation authorised to each.*

PRIVATE BANKS.

Andover Bank, ...	£17,751	Carmarthen Bank, ...	£23,597
Ashford Bank, ...	11,849	Chertsey Bank, ...	3,436
Aylsham Bank, ...	5,854	Colchester Bank, ...	25,082
Aylesbury Old Bank, ...	48,461	Colchester and Essex Bank, . .	48,704
Baldock and Biggleswade Bank,	37,223	Cornish Bank, ...	49,869
Barnstaple Bank, ...	17,182	Coventry Bank, ...	12,045
Basingstoke and Odiham Bank,	24,730	City Bank, Exeter, ...	21,527
Bedford Bank, ...	34,218	Craven Bank, ...	77,154
Bedford and Bedfordshire Bank,	8,515	Christchurch Bank, ...	2,840
Bewdley Bank, ...	18,597	Cardiff Bank, ...	7,001
Bicester and Oxfordshire Bank,	27,090	Chepstow Old Bank, ...	9,387
Birmingham Bk.—Attwoods & Co.	23,695	Derby Bank—Messrs. Evans, .	13,332
Birmingham & Warwickshire Bk.	18,132	Derby Bank—Smith & Co. . .	41,304
Blandford Bank, ...	9,723	Derby Old Bank, ...	27,237
Boston Bank—Garfit & Co. . .	75,069	Devizes and Wiltshire Bank, .	20,674
Boston Bank—Gee & Co. . . .	15,161	Diss Bank, ...	10,657
Bridgewater Bank, ...	10,028	Doncaster Bk. and Retford Bk.	77,400
Bristol Bank, ...	48,277	Darlington Bank, ...	86,218
Broseley and Bridgenorth Bank,	26,717	Devonport Bank, ...	10,664
Buckingham Bank, ...	29,657	Dorchester Old Bank, ...	48,807
Bury and Suffolk Bank, . . .	82,362	East Cornwall Bank, ...	112,280
Banbury Bank, ...	43,457	East Riding Bank, ...	53,392
Banbury Old Bank, ...	55,153	Essex Bk. & Bishops Stortf'd Bk.	69,637
Bath City Bank, ...	4,572	Exeter Bank, ...	37,894
Bedfordshire Leighton Buz. Bk.	36,829	Fakenham Bank, ...	24,293
Birmingham Bk., Taylor & Lloyds	38,816	Faringdon Bk. & Bk. of Wantage,	8,977
Bradford Old Bank, ...	12,676	Farnham Bank, ...	14,202
Brecon Old Bank, ...	68,271	Faversham Bank, ...	6,681
Brighton Union Bank, ...	33,794	Godalming Bank, ...	6,322
Burlington and Driffield Bank,	12,745	Grantham Bk.—Kewney & King,	19,401
Bury St. Edmund's Bank, . .	3,201	Guildford Bank, ...	14,524
Bromsgrove Bank, ...	16,799	Grantham Bank—Hardy & Co.	30,372
Cambridge Bk.—Mortlock & Sons,	25,744	Hastings Old Bank, ...	38,038
Cambridge & Camb'dgeshire Bk.	49,916	Hereford City and County Bank,	22,364
Canterbury Bank, ...	33,671	Hertford and Ware Bank, . .	23,635

Hull & Kingston-upon-Hull Bk.	£19,979
Huntingdon Town & Co. Bk.	56,591
Harwich Bank,	5,778
Hemel Hempstead Bank,	23,942
Hertfordshire, Hitchen Bank,	38,764
Hereford, Ross & Archenf'd Bk.	27,625
Ipswich Bank,	21,901
Ipswich & Needham Market Bk.	80,699
Kentish Bank,	19,895
Kington and Radnorshire Bank,	26,050
Knighton Bank,	9,090
Knaresborough Old Bank,	21,825
Kendal Bank,	44,663
Kettering Bank,	9,192
Lane End Staffordshire Bank,	5,624
Leeds Bank,	53,357
Leeds Union Bank,	37,459
Leicester Bank,	32,322
Lewes Old Bank,	44,836
Lichfield Bank,	22,786
Lincoln Bank,	100,342
Llandovery Bk. & Llandilo Bk.	32,945
Loughborough Bank,	7,359
Lymington Bank,	5,038
Lynn Regis & Lincolnshire Bk.	42,817
Lynn Regis and Norfolk Bank,	13,917
Macclesfield Bank,	15,760
Manningtree Bank,	7,692
Marlborough Bank,	19,073
Marlboro & N. Wiltsh. New Bk.	12,490
Merionethshire Bank,	10,906
Miners' Bank,	18,688
Monmouthsh. Agri. & Com. Bk.	29,335
Monmouth Old Bank,	16,385
Monmouthsh. Newport Old Bk.	8,600
Newark Bank,	28,788
Newark and Sleaford Bank,	51,615
Newbury Bank,	36,787
Newmarket Bank,	23,098
Norfolk and Suffolk Bank,	4,551
Norwich Crown Bank,	45,120
Norwich and Norfolk Bank,	75,372
Nottingham & Nott'ghamsh. Bk.	10,866
Nuneaton Bank,	5,898
Naval Bank, Plymouth,	27,321
New Sarum Bank,	15,659
Nottingham Bank,	31,047
Oswestry Bank,	18,471
Oxford Bank,	14,277
Oxford Old Bank,	34,391
Old Bank Tonbridge,	13,183
Oxfordshire Witney Bank,	11,852
Pease's Old Bank, Hull,	48,807
Penzance Bank,	11,405
Peterborough Bk.—Yorke & Co.	12,545
Peterborough Bk.–Simpson & Co.	12,832
Pembrokeshire Bank,	12,910
Reading Bk.—Simmonds & Co.	37,519
Reading Bk.—Stephens & B.	£43,271
Richmond Bank, York,	6,889
Ringwood and Poole Bank,	11,856
Rochdale Bank,	5,590
Rochester, Chatham & Strood Bk.	10,4[illegible]0
Royston Bank,	16,393
Rugby Bank,	17,250
Rye Bank,	29,864
Reigate and Dorking Bank,	13,700
Ross Old Bank, Herefordshire,	7,420
Saffron Walden & N. Essex Bk.	47,646
Salop Bank,	22,338
Scarborough Old Bank,	24,813
Shrewsbury Old Bank,	43,191
Sittingbourne and Milton Bank,	4,789
Southampton Town & Co. Bk.	18,589
Southwell Bank,	14,744
St. Albans Bank,	3,743
Southampton & Hampshire Bk.	6,770
Stone Bank,	9,154
Stourbridge Bank,	17,295
Stafford Old Bank,	14,166
Stamford and Rutland Bank,	31,853
Stourbridge Old Bank,	17,560
Shrewsbury and Welsh Pool Bk.	25,336
Taunton Bank,	29,799
Tavistock Bank,	13,421
Thornbury Bank,	10,026
Tiverton and Devonshire Bk.	13,470
Thrapstone and Kettering Bank,	11,559
Tring Bank and Chesham Bank,	13,531
Towcester Old Bank,	10,801
Union Bank, Cornwall,	17,003
Uxbridge Old Bank,	25,136
Wallingford Bank,	17,064
Warwick & Warwickshire Bk.	30,504
Wellington Bank, Somerset,	6,528
West Riding Bank,	46,158
Whitby Old Bank,	14,258
Winchester, Alresford & Alt. Bk.	25,892
Winchester and Hampshire Bk.	6,737
Weymouth Old Bank,	16,461
Wirkesworth and Derbysh. Bk.	37,602
Wisbech and Lincolnshire Bk.	59,713
Wiveliscombe Bank,	7,602
Wolverhampton Bk.—G. & Co.	14,180
Worcester Bank,	15,463
Worcester Old Bank,	87,448
Worcestershire Bank,	14,309
Walsall Old Bank,	19,937
Warminster and Wiltshire Bk.	24,896
Wrexham Bank,	3,289
Wolverhampton Bk.—R. & W. Fryer,	11,867
Yarmouth and Suffolk Bank,	53,060
Yarmouth, Norf'k & Suff'k Bk.	13,229
Yeovil Old Bank,	10,033
York Bank,	46,387

JOINT STOCK BANKS.

Bank of Westmoreland, . .	£12,225	Ludlow and Tenbury Bank,	£10,215
Barnsley Banking Company, .	9,563	Moore & Robinson's Notts. Bk.	35,813
Bradford Banking Company, .	49,292	Nottingham & Notts. Bkg. Co.	29,477
Bilston District Banking Co. .	9,418	Newcastle, Shields & Sunderland Union Joint Stock Bank, . .	84,130
Bank of Whitehaven, ...	32,681	National Provincial Bk. of Eng.	442,371
Bradford Commercial Bkg. Co.	20,034	North Wilts Banking Company,	63,939
Burton, Uttoxeter and Staffordshire Union Bank, ...	60,701	Northamptonshire Union Bank,	84,356
Chesterfield & N. Derby. Bk. Co.	10,421	Nothamptonshire Banking Co. .	26,401
Cumberland Union Banking Co.	35,395	North and South Wales Bank, .	63,951
Cheltenham & Glo'stersh. Bk. Co.	12,786	Pare's Leicestershire Bkg. Co. .	59,300
Coventry & Warwicksh. Bk. Co.	28,734	Saddleworth Banking Co. . .	8,122
Coventry Union Banking Co. .	16,251	Sheffield Banking Company, .	35,843
County of Gloucester Bkg. Co.	144,352	Stamford, Spalding & B. Bk. Co.	55,721
Carlisle & Cumberland Bkg. Co.	25,610	Stuckey's Banking Company, .	356,976
Carlisle City and District Bank,	19,972	Shropshire Banking Company,	47,951
Dudley & W. Bromw. Bkg. Co.	37,696	Stourbridge & Kidderminst. Bk.	56,830
Derby and Derbyshire Bkg. Co.	20,093	Sheffield and Hallamshire Bank,	23,524
Darlington Dist. Joint St. Bk. Co.	26,134	Sheffield & Rotherham Jt. St. Bk.	52,496
East of England Bank, . . .	25,025	Swaledale & Wensleydale Bk.	54,372
Gloucestershire Banking Co. .	155,920	Storey's and Thomas's Bank, .	9,714
Halifax Joint Stock Bank, . .	18,534	Sheffield and Retford Bank, . .	18,744
Huddersfield Banking Co. . .	37,354	Wolverhampton & Staffords. Bk.	35,378
Hull Banking Company, . . .	29,333	Wakefield & Barnsley Union Bk.	14,604
Halifax Commercial Bkg. Co. .	13,733	Whitehaven Joint Stock Bank,	31,916
Halifax & Huddersf'd Union Bk.	44,137	Warwick & Leaming. Bkg. Co.	37,124
Helston Banking Company, . .	1,503	West of Eng. and South Wales District Bank, ...	83,535
Herefordshire Banking Co. . .	25,047	Wilts and Dorset Banking Co.	76,162
Knaresborough & Claro Bkg. Co.	28,059	West Riding Union Banking Co.	34,029
Kingsbridge Joint Stock Bank,	3,952	Whitchurch & Ellesm. Bkg. Co.	7,475
Lancaster Banking Company, .	64,311	Worcester City & Co. Bkg. Co.	6,848
Leeds Banking Company, . .	23,076	York Union Banking Company,	71,240
Leicestershire Banking Co. . .	86,060	York City & Co. Banking Co.	94,695
Lincoln and Lindsay Bkg. Co.	51,620	Yorkshire Banking Company, .	122,532
Leamington Priors & Warw. Bk.	13,875		

SCOTCH BANKS.

Bank of Scotland, ...	£300,485	Dundee Banking Company, .	£33,451
Royal Bank of Scotland, . . .	183,000	Eastern Bank of Scotland, . .	33,636
British Linen Company . . .	438,024	Western Bank of Scotland, . .	337,938
Commercial Bank of Scotland, .	374,880	Clydesdale Banking Company,	104,028
National Bank of Scotland, . .	297,024	City of Glasgow Bank, . . .	72,921
Union Bank of Scotland, . . .	327,223	Caledonian Banking Company,	53,434
Edinburgh and Glasgow Bank,	136,657	Perth Banking Company, . .	38,656
Banking Com. in Aberdeen, . .	88,467	Central Bank of Scotland, . .	42,933
Aberdeen Town and Co. Bank,	70,133		
North of Scotland Banking Co.	154,319	TOTALS, 18 Scotch Banks,	£3,087,209

IRISH BANKS.

Bank of Ireland, ...	£3,738,428	National Bank, ...	£761,757
Provincial Bank, ...	927,667	Carrick-on-Suir National Bank,	24,084
Belfast Bank, ...	281,611	Clonmel National Bank, . . .	66,428
Northern Bank, ...	243,440		
Ulster Bank, ...	311,079	TOTALS, 8 Irish Banks,	£6,354,494

HISTORY OF BILLS OF MORTALITY.

From the Encyclopedia Britannica.

The first table of mortality was constructed by Dr. Halley, from the Mortuary Registers of Breslau, for five years ending with 1691; and was inserted in his paper on the subject in the Philosophical Transactions for the year 1693, with many judicious observations on the useful purposes to which such tables may be applied.

No further information of this kind was communicated to the public, until William Kersseboom of the Hague, published there three tracts on the subject (4to.) The first, dated March 1, 1738, was entitled, *Eerste Verhandeling toteen Proeve om te weeten de probable menigte des volks in de provintie van Hollandt en Westvrieslandt.* The second, dated May 15, 1742, *Tweede Verhandeling bevestigende de Proeve om te weeten de probable menigte des volks in de provintie van Hollandt en Westvrieslandt;* and the third, dated August 31, 1742, *Derde Verhandeling over de probable meenigte des volks in de provintie van Hollandt en Westvrieslandt.*

A good account of the first of these tracts has been given by Mr. Eames, in the Philosophical Transactions for 1738; and rather a meagre one of the other two, by Mr. Van Rixtel, in the same Transactions for 1743.

It is therefore unnecessary to repeat here, any thing contained in those accounts; but as they give no satisfactory information concerning the construction of Mr. Kersseboom's Table of Mortality (which he called a Table of Vitality,) it will be proper to supply so material a defect in this place.

In his first tract, the author informs us that he constructed his table from registers of many thousand life-annuitants, in Holland and West Friesland, which had been kept there from 125 to 130 years previous to the date of his publication; and showed how many of the nominees, or lives the annuities depended upon, were, at the time of their nomination, under one year old, between one and two, between two and three, and so on for all ages.

An exact account was also kept of the age at which each life of every class failed; whence it clearly appeared, what degree of mortality prevailed at every age above one year. But because very few children were nominated at or near their birth, he could not, from these registers, determine the mortality under one year of age.

He therefore had recourse to mortuary registers and other observations; from exact accounts of which he found with sufficient certainty as he says, that out of 28,000 born alive, 5,500 died under one year. He also informs us, that, for this purpose, he made use of the observations of divers learned men in England and elsewhere, especially Major John Graunt's upon the number of the people and the rate of mortality; and upon taking an average of the whole, he found it to differ but little from that just stated.

And this appears to be the only ground for the assertion made by

most writers on this subject (probably copying from each other without having seen the original work,) that Kersseboom's Table of Mortality was constructed from observations made upon annuitants in England as well as in Holland; also, that it was formed partly from observations made upon the inhabitants of some Dutch villages.

He first published his Table of Mortality in his second tract, and in his third, he gave abstracts of the registers from which it was constructed. These were contained in twenty-nine tables, twenty-two of which were for the two sexes separately; in the rest the sexes were not distinguished; and the ages at which the lives failed were generally given to the exactness of half a year.

The number of lives, whose current year of age at the time of their nomination was given precisely in these tables, were,

Males separately, ...	1843
Females separately, ...	1769
Males and Females, without distinction of sex, .	1536
Total, ...	5148

and none of these nominees were above twelve years of age at the time of their nomination.

These, however, are only specimens of M. Kersseboom's labours. He says there were so many lives in the registers, that he had not the courage to undertake extracting the necessary particulars for more than 50,000 of them; and in that, he was greatly assisted by his friend Thomas Von Schaak. Of all the lives, not more than one of 120 was past 55 years of age at the time of nomination.

Nicholas Struyck, in his "Aanhangsel op de Gissengen over den staat van het Menschelyk Geslagt, en de Uitreekening der Lyfrenten," published at Amsterdam in 1740, at the end of the quarto volume, commencing with his "Inleiding tot de Algemeene Geographie," gave, from registers kept at Amsterdam for about thirty-five years, two tables of observations made upon the duration of the lives of 794 males, and 876 female annuitants separately; and two tables of mortality he had constructed from them for the two sexes; both beginning with five years of age. These two, taken together, differ but little from that of Dr. Halley; they represent the mortality to be considerably greater than Kersseboom's. Having been constructed from so few observations they are not entitled to much confidence, and appear to have been very little known or attended to.

This work of Struyck gave occasion to the publication, in the same year, of a small tract in quarto, by Kersseboom, entitled, "Eenige Anmerkingen op de Gissengen over den staat van het Menschelyk Geslagt," &c., wherein he accused Struyck of plagiarism, with but too much appearance of justice.

Neither Kersseboom nor Struyck gave any information as to the manner in which they formed their tables of mortality from the observations on which they were grounded. M. Kersseboom informs us, that he submitted his table to Professor S'Gravesande, some years previous to its publication, and obtained his approbation of it for calculating the values of annuities on lives.

In the year 1742, Mr. Thomas Simpson, in his Doctrine of Annuities, (see the article Annuities) gave a table of mortality for London, being the same that had previously been constructed by Mr. Smart, at twenty-five and all the greater ages, but corrected at all ages under twenty-five years, on account of the greater number of strangers who settle in London under that age, which occasioned, till the commencement of the present century, a constant excess of the burials above the births.

This correction Mr. Simpson made by comparing together the numbers of christenings and burials; and observing, by means of Dr. Halley's table, the proportion between the mortality in London and Breslaw above twenty-five years of age.

In 1746, M. Deparcieux published (at Paris, in 4to.) his Essai sur les Probabilités de la duree de la Vie Humaine, in which he gave six new and valuable tables of mortality; one of them constructed from the lists of the nominees in the French Tontines, principally those of the years 1689 and 1696, and the rest from the mortuary registers of different religious houses; four of these showing the mortality that prevailed amongst the monks of different orders, and the fifth, that which obtained amongst the nuns in different convents of Paris. Those for the monks and nuns, with the exception of the tables of Struyck, mentioned above, were the first ever constructed for the two sexes separately.

The Essay of M. Deparcieux is written popularly, and with great perspicuity; he has given the most satisfactory accounts both of the data his tables were constructed from, and the manner of their construction.

In his thirteenth table, he included with the five tables of mortality of his own construction, that of Mr. Smart for London, as corrected by Mr. Simpson, Dr. Halley's, and M. Kersseboom's, together with the expectation of life at, or its average duration after each age, both according to his own and M. Kersseboom's table for annuitants, and for every fifth year of age according to each of the other tables; the fractional parts of a year being always expressed in months, and not in decimals.

Dr. Halley first, and Struyck after him, had given the probable duration of life after several ages, according to their respective tables, that is, the term at the expiration of which, the persons now living at any proposed age, will be reduced by death to one-half their present number.

But Deparcieux appears to have first given the average duration of life after any age, and showed how to calculate it correctly from tables of mortality. On account of the scarcity and value of M. Deparcieux's Tables of Mortality, Mr. Milne has reprinted them, with the expectations of life just mentioned, in his Treatise on Annuities, with a short account of their construction; it is therefore unnecessary to pursue the subject further here.

In 1760, M. Deparcieux published (at Paris, in 4to.) his addition à l'Essai sur les Probabilités de la duree de la Vie Humaine, with five tables; three of them relating to life annuities deferred on a peculiar plan, we consider to be of no interest or value at this time: the two others are tables of mortality constructed from statements of the numbers of deaths that took place at different ages, without knowing the numbers

of the living at the same periods of life. He obtained the data for the first of them from a clergyman on the frontiers of Normandy and Perche, whose accuracy in all he undertook, he could rely upon; and who gave him the names of the parishes from the registers of which he had extracted the information: but strictly enjoined him not to disclose his name in the event of his making use of the documents.

In these the sexes were not distinguished. The other table of mortality M. Deparcieux constructed from statements sent to him by M. Wargentin of the numbers of deaths of males and females separately, which took place in the different intervals of age in Sweden and Finland, during the three years, 1754, 1755 and 1756. Those two tables have the same faults as others constructed from similarly defective data; and we consider them to be of no value.

M. Deparcieux states, (p 28,) that in 1744, he suggested to M. Aubert, the commissary who at that time prepared the Bills of Mortality for Paris, the expediency of distinguishing the sexes in the columns of births and deaths, which had not been done previously, but was in consequence of this commenced with the year 1745, and has been continued ever since, as we have already observed in our account of the Parisian Recherches Statistiques.

M. de Buffon, at the end of the second volume of his Histoire Naturelle, published in 1749, inserted a table of mortality that had been constructed by M. Dupre de Saint Maur, from the registers of twelve country parishes in France, and three parishes of Paris; which M. de Buffon informs his readers that he inserted in his work the more willingly, since these were the only kind of documents, or combinations of them, from which the probabilities of life among mankind in general, could be determined with any certainty. Yet this was a very faulty table, and the numbers of annual deaths were so injudiciously distributed, according to the ages, that it often represented the mortality in one year of age to be three or four times as great, and in some cases, six times as great, as in the next year. Some remarks of M. Kersseboom on this table may be seen in the Philosophical Transactions for 1753. M. de Saint Cyran, corrected some of its most obvious errors, and inserted both the original and his corrected copy in his Calcul des Rentes Viageres. (Paris, 1779, in 4to.)

Mr. Simpson, in the Supplement to his Doctrine of Annuities, published in 1752, gave some further explanations of the corrections he had made in Mr. Smart's table of mortality for London; and made some very judicious observations on the difficulties that attend the construction of tables of mortality from the mortuary registers only, of large towns.

In the Nouveaux Mém. de l'Acad. Roy. de Berlin for the year 1760, there is a paper by the celebrated Euler, entitled Recherches générales sur la Mortalité, et la multiplication du Genre Humain, wherein the subject is treated algebraically. He assumes that the population is not affected by migration, and that the annual births and deaths are always as the contemporaneous population; consequently, that the number of the people increases or decreases, in geometrical progression. Then he gives several theorems exhibiting the relations that would obtain between the annual births and deaths and the population, and determines the law of mortality upon these hypotheses, but does not show how it may be

deduced from actual observations independent of hypotheses; neither does he undertake the construction of any table of mortality, but by way of example, gives that of M. Kersseboom, with the changes of the numbers which become necessary, in consequence of his altering the radix from 1,400 annual births to 1,000.

Sussmilch took great pains in collecting the numbers of annual deaths in the different intervals of age, which he published in his Göttliche Ordnung; and four tables of mortality formed from these data are to be found in the same work; that in the second volume (461,) which has many imperfections, was formed by himself; the three others, being the 21st, 22d, and 23d, at the end of the third volume, were constructed by his commentator Baumann, according to the more correct method of Lambert.

The first edition of Dr. Price's Observations on Reversionary Payments, appeared in 1771, containing his observations on the proper method of constructing tables of mortality from bills which shew the numbers dying annually at all ages, and three new tables of mortality constructed from the London, Norwich, and Northampton bills.

The second edition of the same work was published in 1772, and contained, in the supplement, much interesting and valuable information which did not appear in the first, together with five new tables, intended to exhibit the law of mortality that obtained, 1st, in the district of Vaud, in Switzerland; 2d, in a country parish in Bradenburg; 3d, in the parish of Holy Cross, near Shrewsbury; 4th, at Vienne; 5th, at Berlin. The first formed from bills of mortality given in the Memoire of M. Muret; and the 2d, 4th, and 5th, from those given by Sussmilch in his Göttliche Ordnung; the 3d, was from the parish register only of Holy Cross. But we consider none of those tables as now of any value, on account of the defects in the data from which they were constructed.

At the end of the first volume of the work of J. H. Lambert, (8vo.) published at Berlin in 1765, he gave a chapter on the certainty of inferences deduced from observations and experiments; and the example with which he concluded the illustration of his theory, was the deduction of the law of mortality in London from the bills of mortality there; by means of a curve, of which the abscis being proportional to the age, the corresponding ordinate was proportional to the number of survivors of the same age.

M. Lambert also constructed a table by which he intended to exhibit the law of mortality that prevails among mankind in general, from the 23d and 24th tables in the second volume of Sussmilch's Göttliche Ordnung, which gave the numbers of deaths, in the different intervals of age, in seventeen country parishes in the mark of Bradenburgh, and from the London bills for thirty years; supposing, with Sussmilch, (Gött. Ord. t. i. §34,) that the country people are double the number of those residing in towns.

By an extract of a letter from M. Lambert, to Gaeta and Fontana, given in their Italian translation of Demoivre's Treatise on Life Annuities, (Discorso Preliminare, part iii.) it appears, that all his attempts to find a posteriori an equation which should determine the relation between the age and the number of survivors in this last table, proved fruitless; the formulæ he arrived at having been either too long and intricate, or too

incorrect. This is the less to be regretted, since there is no doubt that M. Lambert's table did not represent the true law of mortality, as he made no allowance for the effect of the increase of the people by procreation; and it is singular he did not see that that law might be correctly determined from the numbers of the living, and the annual deaths at all ages in Sweden and Finland, given in M. Wargentin's paper in the Stockholm Transactions for 1766, which paper he himself quotes.

Lambert appears to have first demonstrated clearly the principal properties of tables of mortality, in doing which he made use of the differential and integral calculus; but as he could not determine the equation to the curve of mortality, that resource did not avail him much.

Flourencourt treated this subject algebraically in the third chapter of his Political Arithmetic, where he gave a perspicuous view of it, as it had been previously treated by Euler and Lambert; but added nothing himself that was original, except three new tables of mortality; one for males, another for females, and a third for both sexes without distinction; deriving his data in each case from the Göttliche Ordnung of Sussmilch.

He also gave a new copy of the table of mortality M. Deparcieux had constructed from the registers of the nominees in the French tontines; assuming 10,000 for the radix, and inserting the numbers under three years of age, nearly according to M. Kersseboom's table; this, however, does not differ materially from the original table of Deparcieux.

The fourth edition of Dr. Price's Observations on Reversionary Payments was published in the year 1783, and contained new tables of mortality for Warrington and Chester, also for all Sweden and Finland, and for Stockholm separately, in which the sexes were distinguished. Those for the whole kingdom were constructed from enumerations of the living, and registers of the annual deaths, in each interval of age, during twenty-one years; those for Stockholm during nine years.

The tables for Sweden and Stockholm, were the first ever constructed from the data that are requisite to determine the law of mortality among the bulk of the people, and were sufficiently accurate representations of that law, for the times and places in which the observations were made.

In a paper of M. Henrich Nicander, inserted in the Transactions of the Royal Academy of Sciences at Stockholm, for the first quarter of the year 1801, he gave two tables of mortality for all Sweden and Finland, in which the sexes were distinguished, but they were not properly constructed; and the mean duration of life which he gave in them at each age, was very erroneous, especially in early life. In that paper he asserted, without offering any demonstration or proof, that, in what we have called the curve of mortality above, if an ordinate be drawn through the centre of gravity of the portion of the area cut off by the ordinate at any assigned age, on the side of the more advanced ages, the part of the base, or of the axe of the abscisses, intercepted between these two ordinates, will measure the mean duration of life after such assigned age. And the mean duration of life after each age, which he has given, was determined in this manner.

Mr. Milne's Treatise on Annuities and Assurances was published in the year 1815; and, in the third chapter of that work, the construction and properties of tables of mortality are fully treated of.

XUM

In the second volume of the same work, three new tables of mortality are given; one constructed from very accurate observations made at Carlisle, by Dr. Heysham, who preserved the bills of mortality of the two parishes, which include that city and its environs, and supplied their deficiences with great care, together with correct accounts of two enumerations of the inhabitants, in which their ages were taken; and a table showing the diseases by which the deaths at all ages were occasioned, is also given.

The fourth and fifth tables in Mr. Milne's work, exhibit the law of mortality which prevailed in all Sweden and Finland, both with and without distinction of the sexes, deduced from the registers kept and the enumerations made there, during twenty years ending with 1795; which term was subsequent to that wherein the observations were made, from which Dr. Price's tables were constructed.

The seventh table in the same work exhibits the law of mortality at Montpellier for males and females separately, and was constructed from the bills of mortality of that place for twenty-one years, ending with 1792.

The second table at the end of this article, was published in the first edition of it in 1822; the tables of mortality for the lives insured in the Equitable Office, which were constructed by Mr. Babbage and Mr. Davies, were published in 1826; and we have given some account of them as well as of those formed by Mr. Finlaison, from observations on Government Annuities in this country, and published in 1829, in the article Annuities in this work.

M. M. Quetelet and Edouard Smits, in their "Recherches sur la reproduction et la mortalité de l'Homme," in 1832, gave a table of mortality for the towns and the rural districts in Belgium separately, distinguishing males from females, and also for the whole population, without distinguishing the sexes, or the inhabitants of towns from those of the country.

Mr. Morgan, in the above mentioned publication of the Equitable Assurance Society, in 1835, gave a table of mortality for the lives insured in it, (marked C, p. 28,) derived from table A, of that work; another (D) derived from table B, is not worth a place there.

The second of the tables at the end of Dr. Casper's work on the Probabilities of Human Life, published in 1835, was intended to exhibit the law of mortality in Berlin, with distinction of the sexes; it was constructed from 69,362 deaths at different ages; 36,895 of males, 32,467 of females, which took place there during the twelve years, 1818—1829. And M. Mallet at the end of his valuable Memoire, published in 1836, has given one for Geneva, in which the sexes are distinguished: it contains both the mean and the probable duration of life after every age, and was formed from the bills of mortality there for the eighteen years, 1814—1833. For males, females, and the two sexes without distinction, M. Mallet took so high a radix as 100,000 births; the number of deaths were, of males 5,219, females 5,688, of both sexes 10,907; and in the column of deaths, on the same line for any age, as the survivors of that age, the author has put the number of deaths in the registers in the next following year, instead of the decrement of life, or excess of the number attaining that above the number attaining the next greater age, which will probably puzzle many readers.

THE GENERAL POST OFFICE.

Table showing the length of Mail Routes, Total Annual Transportation and its Cost in each State, for the year ending 30 June, 1848.

	Length of Routes.	Total annual transportation.	Total annual cost.
	Miles.	*Miles.*	*Dollars.*
Maine,	4,183	1,211,635	42,565
New Hampshire,	2,188	736,352	26,242
Vermont,	2,423	757,246	26,228
Massachusetts,	3,963	1,939,630	109,071
Rhode Island,	414	166,400	9,198
Connecticut,	1,762	770,593	46,485
New York,	13,331	5,072,517	233,148
New Jersey,	2,029	766,032	59,435
Pennsylvania,	10,369	2,854,150	155,778
Delaware,	555	151,003	7,887
Maryland,	2,379	941,923	134,014
Virginia,	11,370	2,470,884	165,472
North Carolina,	7,632	1,623,544	152,166
South Carolina,	4,704	1,063,500	105,491
Georgia,	6,421	1,493,294	136,918
Florida,	1,784	297,644	24,937
Ohio,	11,825	3,035,856	169,877
Michigan,	4,188	932,524	41,509
Indiana,	7,224	1,345,704	58,664
Illinois,	8,925	2,158,430	105,627
Wisconsin,	3,626	511,096	18,786
Iowa,	2,178	338,936	12,511
Missuori,	9,035	1,683,604	55,221
Kentucky,	8,332	2,752,840	92,152
Tennessee,	7,074	1,384,912	61,537
Alabama,	6,851	1,619,022	143,079
Mississippi,	4,707	949,624	67,223
Arkansas,	5,334	736,636	44,529
Louisiana,	3,623	543,232	45,115
Texas,	4,779	548,756	43,838
	163,208	41,012,579	$2,394,703
Mail Agencies,			54,063
Foreign Mails,			100,500
			$2,549,266

Extracts from the Report of S. R. Hobbie, Assistant Postmaster General, Wednesday, December 19, 1848.

HISTORICAL.

The Post Office had no existence, as an institution for general use, till towards the close of the 15th century. The establishment of posts we can trace as far back as the Persian Empire, and the range of Darius the I. The correspondence between Julius Cæsar and Cicero makes memorable those established by the great Triumvir between Britain and Rome. His skill in such arrangements, acquired possibly whilst Surveyor of the Appian Way, gave them a speed unsurpassed in modern

times, till the introduction of steam. Augustus and his successors maintained them on a larger scale. But their character is indicated by the fact, that the head of this mail establishment, was the Captain of the Praetorial Guard. They were courier despatches between the Government and the Army.—Military *posts* furnished the relays that performed the service: and whether they did not also confer their name upon it, is a matter that the lexicographers, who derive it from the past participle of a latin verb, may have yet to settle with the historians. Posts of a like character the Spanish adventurers found under the Incas of Peru. The University of Paris, and the affluent merchants of Italy and Germany, following the example of their Governments, sent their own messengers for the conveyance of letters. But with the dawn of liberty in the Italian States, and especially in the Duchy of Milan, the Post Office first entered upon the duty of serving the citizen as well as the Government. And the comprehensive genius of Charles the Vth. systematized it for his vast dominions on the basis of public and social accommodation. He created the first Postmaster General known to history in the person of Leonard, Count of Taxis.

The Post Office was introduced into England from Italy,—but under ecclesiastical auspices. The Pope's Nuncio was the chief functionary. It was but little used in this form; and was, at length, flung aside as one of the Papal encroachments. The office of Postmaster General in England enjoys the honor of being created by Elizabeth, who conferred it upon Thomas Randolph, a gentleman of distinction in the foreign service of the Queen, where he had acquired, as we may presume, a knowledge of the mail establishments of the continent.

It is a notable circumstance, that in the 17th century the Post Office establishment was given away in Germany as a feudatory monopoly to the family of Taxis: in France it was set up at auction and farmed out for a term of years, and so continued till near the close of the 18th century, 1791. And the same disposition was made of it during the Commonwealth in England. In the reign of Queen Anne, the Post Office Department for the British Empire, was re-organized under a statute of Parliament, that embraced the American Colonies, and provided for the establishment of one chief letter office in New York, with others in convenient places in the other provinces.

But it was long anterior to this, as early as the reign of Charles the II. that the popular movements brought the Post Office into existence in America as a convenience of the people,—a character in which it had never originated in any nation or country before. A Post Office was established in Boston, under John Heyward, by the Colonial Court, in 1677; and in Philadelphia, under Henry Waldy, by order of William Penn, in 1683. The Virginia Assembly gave Mr. Neal a patent as Postmaster General in 1692, which never went into effect. But in 1700 Col. John Hamilton, of New Jersey, obtained a patent from the Colonial Government for a Post Office scheme for the whole country, which he carried into successful operation, and for which he obtained indemnity from the English Government, when it was superseded by the statute of Anne in 1710. The illustrious name of Franklin first appears in connexion with the service of the American Post Office in 1737. He was

then appointed Postmaster of Philadelphia, and was commissioned as one of the two Deputy Postmasters General of British North America in 1753. The length of the post roads in the thirteen colonies was then 1,532 miles, North Carolina having the most, New Hampshire the least, and New York 57 miles. After improving and enlarging the service and returning to the British Crown, as he says, three times as much clear revenue as the Post Offices of Ireland, he was dismissed as Deputy Postmaster General "by a freak of Ministers" in 1774. But in the next year, July 26, 1775, he was elected Postmaster General of the United Colonies by the unanimous vote of the Continental Congress.

An advance of fifteen years brings us to 1790, the official documents of which exhibit through some meagre details the extent of the Post Office operations of the first year of the present Government of the United States. The whole mail service was comprised in twelve contracts and consisted of a line of posts from Wiscasset to Savannah, with branches to Providence and Newport; to Norwich and New London; to Middletown; to Pittsburgh; to Dover and Easton; to Annapolis; and to Norfolk and Richmond—upon no portion of which was the mail sent oftener than tri-weekly; and on much of it but once in two weeks. Between Philadelphia and Pittsburgh "a complete tour" was performed once in twenty days. The annual cost of the whole service was $22,702 07. The number of Post Offices was seventy-five, and the length of post routes 1,875 miles.

If with this service of the first year, we compare that of the 58th year of the Government, we shall find the growth of this institution in the United States, the length of its routes and the frequency of its mails unequalled in rapidity and extent by any other nation since the beginning of time.

CONCLUSION.

We have 16,159 Post Offices, whilst those of France in 1847, were 3,582, and of Great Britain, including 3,009 Receiving Houses, 4,785. We have 162,208 miles of post roads and 41,012,579 miles of annual transportation of the mail, inland. What the extent of the transportation is in France or Great Britain there are no statistics at hand to show,—much less than ours, undoubtedly. But the circulation in the French mails was about 115 millions of letters in 1847, and in the British about 300 millions; whilst ours was less than 60 millions; whereas our population is but about 43 per cent. less than that of France and 26 less than that of Great Britain. This shows that we make a greater provision of mails per capita, but that they are less used by the public in proportion to population than in England or France. The greater equality of our service in favor of the dispersed and remote population, and the greater absorption in the French and English mails of the city, and town letters going from street to street, with little comparative loss of accommodation on our part, are more than sufficient to account for the small difference in favor of France, whose Paris letters alone number —— millions annually.—Not so with Great Britain. For the difference in her favor we must look to other causes,—and we find them in the higher rates of our postage and the defective ma-

chinery of our system—both of which interpose checks to a universal resort to the mails. A change in the mode of business at the offices that will give more regularity to the mails, more certainty to the accounts and more exactness to all the details of the service, and the liberalizing of the system by reducing the charge of transport, will produce inevitably a larger use of the Post Office by the people, and result in a vast improvement to all the business and social interests of the country.

I remain with the highest respect, your ob't serv't,

S. R. Hobbie,
First Ass't P. M. Gen'l.

CURRENCY AND COIN IN GREAT BRITAIN.

The following extracts are from the evidence taken before the Secret Committee of the House of Commons, March, 1848, appointed to inquire into the causes of the Commercial Distress of 1847.

These extracts will give the views of the present Governor of the Bank, and of Mr. Tooke and Mr. Pease.

Evidence of J. Morris, Esq., Governor of the Bank.

Amount of Gold and Silver in Circulation.

Chairman.—Can you give the Committee any information with respect to the amount of gold and silver in circulation?—(Mr. *Morris.*) A calculation has been made by our chief cashier; he seems to make the gold in circulation on the 1st of January, 1848, £44,835,000; but that is an exceedingly rough calculation; it has been supposed to range between £40,000,000 and £60,000,000.

Does that include the gold in the Bank reserve?—The £44,835,000 is supposed to include the amount of gold coin in the Bank.

What is the amount of silver?—The amount of silver is supposed to be about £11,000,000; but that includes the amount of coin in the colonies.

Your chief cashier has paid a good deal of attention to the subject, has he not?—I am not aware that he has paid more attention to it than other parties; but he has based his opinion upon a calculation.

Have you the particulars of the calculation?—Yes; from the calculations made upon the calling in of the light gold coin in 1842 and 1843, it was supposed that the amount of sovereigns in circulation was about £26,000,000; the sovereigns put into circulation from January, 1844, to January, 1848, were £17,702,000, making together £53,702,000, from which deduct sovereigns sent to America, £4,000,000, and light sovereigns abstracted, £4,867,000 making together £8,867,000; it will leave in circulation on the 1st of January, £44,835,000; this calculation does not include the £6,000,000 of coin which we had at the Bank and at the various branches. I have another calculation, made by a party

who is equally capable of making it. In June, 1842, gold with the public, £31,500,000, with the Bank, £4,500,000, making together, £36,000,000. From July, 1842, to December, 1847, £28,502,254; melted at the Mint of light gold, £15,857,113, which, deducted from the £28,582,254, leaves £12,645,141; exported in 1846 and 1847, £4,000,000, that leaves £8,645,141, and added to the £36,000,000, makes £44,645,141, supposed to be the amount of gold coin in the country.

That is very near the other calculation?—Yes, except that the one includes the amount of gold coin in the Bank, and the other is exclusive of it, so that there is a considerable discrepancy between the two, which shows the difficulty there is in arriving at an accurate result; but the general calculation is between £40,000,000 and £60,000,000, which is a very large range.

Evidence of J. Pease, Esq.

Inconvenience of gold currency illustrated. Small notes desirable.

At this moment, supposing there were to be again a general contraction of accommodation, and there were to be a drain of £8,000,000 or £10,000,000 of our bullion, or more, in what state would the productive and trading classes of this country be?—I am satisfied what course I should take; desiring to keep up the appreciation of paper as much as I possibly could, under circumstances very discouraging, I should issue one or two millions of £1 notes, and thereby get the sovereigns in; I should by that means take the sting out of the Act, though for my own part I prefer 50*s.* notes, and I should be very glad to see 50*s.* notes. The present gold circulation of the country is a very harassing and inconvenient circulation indeed; the circulation of bullion is carried to an extent that is extremely harassing to men of business; we want a cheaper medium of circulation; the wages that I am called upon to pay will not be less than £10,000, or £12,000, or £15.000 a month; a great portion of that I have to raise in specie: I am forced to seek that gold round about, of the bankers in the district; I frequently pay an agio for obtaining it; and if I send the gold to London, my friends do not like to take it; they say that whatever they weigh it at, the Bank of England always weigh it at less, and they can never get the value of it at the Bank, and they will not even return the gold to them; and therefore, the circulation of gold to the present extent is a most inconvenient and vexatious one to men of business who have large amounts to pay; I believe that the substitution of a lower denomination of paper-money by the Bank of England would keep much more gold in this country, without depreciating paper at all, and I think the Bank would have a larger reserve to meet any difficulties.

Would you have £2, £3, and £4 notes?—I have no prejudice against £1 notes; but 50*s.* notes, especially if there were a power of paying a larger amount in silver, would be a wonderful relief to the working classes and to the currency.

Would a 50*s.* note pay an individual workman's wages?—Yes: we

pay by the fortnight, and in a very large number of cases, a *50s.* note would pay the wages; and I should like to see silver a legal tender to a larger amount.

To what amount?—Two hundred pounds, or £100 at least.

Do you think that would tend to replace the gold that was displaced by these smaller notes?—The issue of *50s.* notes and £1 notes would most certainly do so.

And you think that the Bank would be more fortified by the larger amount of its bullion so obtained against adverse exchanges?—I have no doubt of it; I wish particularly to guard myself, by saying that the £1 notes should be Bank of England circulation.

Mr. Wilson.—You stated that your remedy for a period of pressure would be, lowering the denomination of the convertible note, taking care at all times to secure its convertibility, by the Bank holding a sufficient reserve; will you inform the Committee of the precise operation by which you expect that the currency of the country would be relieved by a system of that kind?—First of all, I entertain the opinion, in common with many others, that a gold currency is an expensive currency; and I have stated the difficulty that we have in obtaining that currency, and the depreciation at the Bank of England from the loss of weight. Some of my friends in London have told me, that after they have taken gold as of the proper weight from country bankers, they lose £200 or £300 a year from its being reported by the Bank of England as below weight by their scales. First of all, there is the expense of the gold; and taking the gold in by the issue of £1 notes would tend to lessen the pressure in time of scarcity; I can have no doubt, speaking of my own district more particularly, that every one of the notes issued, or a very large proportion of those notes, would be repaid in sovereigns, which would find their way to the Bank coffers.

Then it would really place at the command of the country so much additional *bonâ fide* capital for profitable purposes?—That is decidedly my view.

Would you propose, in the event of a lower denomination of note being issued, and thereby the amount of the Bank circulation increased, that the Bank should hold a proportionate amount of reserve to maintain the convertibility of those notes?—I am of opinion that the amount held of reserve in bullion need not be increased relatively with that increase of the paper circulation; but I would be quite content to take Government securities, if they exceeded the present limits.

Evidence of Thomas Tooke, Esq.

National advantages derived from the Bank of England limited by the Bank Act.

Chairman.—Do you consider that the existence of the Bank of England is an advantage to the public?—Unquestionably; its existence upon its present scale arises from the circumstance of its being the Government Bank; but taking it all in all, I should say that it is an institution which, if it did not exist, and you were constructing a system *de novo*, it would be desirable to have.

What advantages do you consider to flow from the existence of the Bank of England?—The principal one is precisely that which was taken away from it by the Act of 1844, viz., that upon a general failure of credit there is this vast establishment, with its enormous capital and its unquestioned credit, which can come in and fill the vacuum created by such a general derangement of credit as might otherwise occasion a total suspension of business.

Do you conceive that during the late difficulties the Bank of England has been of any benefit in assisting public credit?—It has been a benefit, in spite of the system; it has been of no more benefit till the letter of suspension came than any private bank, except taking into consideration its magnitude. I think it has been a very great mistake, that of causing the Bank of England to cease to be a bank of issue; I think there never was a greater blunder made; the whole of the commercial concerns of the country for 150 years were moulded upon the elasticity of the credit of the Bank of England, and you have now taken that away, and have introduced this separation of departments, reducing the Bank of England, barring only the difference of its capital, to the same functions as those of Jones, Loyd and Company, or Glyn and Company, or Smith, Payne and Company; now, that I conceive to be a most egregious error.

HISTORY OF COINS.

From the London Penny Cyclopædia.

Coin: metal stamped for currency; derived by some from the Greek κοινος, *common;* by others from the Latin, cuneus, *a wedge;* the first currency of metal, in all probability, being in the form of wedges, or ingots. Commerce, in the earliest periods, was carried on by the mere exchange of articles, and it is remarkable that throughout the early part of Scripture, as well as through the poems of Homer, not a single passage occurs from which we can infer either the use or the existence of stamped money. Metals, however, being close and compact in form, universal as to use, and admitting of division into larger or lesser parts, soon became the representatives of value, though at what exact period remains in doubt. Herodotus, I. 94, speaking of the Lydians, expressly says they were the first people on record who coined gold and silver into money. The Parian Chronicle, however, ascribes the origin of coined money to the Æginetans, under Pheidon, king of Argos, 895 years before Christ. Ælian, in his 'Various History,' corroborates this statement as far as the Æginetans are mentioned: and our best numismatic antiquaries agree in considering the coins of Ægina, from their archaic form and appearance, as the most ancient known. They are of silver, and bear on the upper side the figure of a turtle, and on the under an indented mark, as if the metal, at the time of striking, had been fixed upon a puncheon, and from the weight of the blow had received a deep

cleft. In later coins of Ægina, the turtle has been changed to a tortoise, and the fissure on the other side converted into a device. The coins of Lydia probably come next in point of antiquity, and then the early Darics of the Persian kings, which occur both in gold and silver, and bear a strong resemblance to the coins of Ægina in the mode of striking: these, if they are to be referred to Darius the First, must have been coined between B. C. 522 and 486. The richer the metal, the smaller and more portable was the quantity required for the coin. There are coins in gold of the early kings of Persia, similar in type to the silver Darics, and of very minute size.

The study of coins is not to be considered as the province of the antiquary alone. Coins are among the most certain evidences of history. In the later part of the Greek series they illustrate the chronology of reigns. In the Roman series they fix the dates and succession of events. Gibbon observes that if all our historians were lost, medals, inscriptions, and other monuments, would be sufficient to record the travels of Hadrian. The reign of Probus might be written from his coins. In illustrating the history and chronology of sculpture and ancient marbles, coins enable the scholar and the artist not only to discern those peculiarities which characterise style, as it relates to different ages and schools, but to ascribe busts and statues to the persons whom they represent. The personation of the different provinces, too, forms another point of interest upon the Roman coins. Coins are frequently essential to the illustration of obscure passages in ancient writers; and preserve delineations of some of the most beautiful edifices of antiquity not existing now even in their ruins. Addison, in his 'Dialogue on the Usefulness of Ancient Medals,' has long convinced the world of the connexion of this science with poetry. As a branch of the fine arts, it may be sufficient to say, that some of the medals of Sicily belong to a period when sculpture had attained its highest perfection. We would particularly refer to the coins of Syracuse. In every quality of art, too, the Roman coins, to a certain period, yield to the Greek alone. From Augustus to Hadrian the Roman mint was the seat of genius: and coins of admirable execution are found even down to the time of Posthumus.

The generality of numismatic writers divide coins into Ancient and Modern;—the Ancient, into the great divisions of Greek, Roman, and Barbarian.

The *Greek* they divide into cities and kings. Of the first they can make no chronological arrangement: it is alphabetical, under the different countries. The kings commence with the age of Alexander the Great, and belong to the four kingdoms into which his empire was divided, besides the kingdom of Epirus. This series, in a chronological point of view, closes with the extinction of the dynasty of the Lagidæ in the Augustan age. The coins of the Greek cities were impressed either with appropriate symbols or the heads of deities. The coins of the monarchs bore the heads of the respective princes. Pinkerton observes that the first copper coins of Greece known are those of Gelon, king of Syracuse, about 490 years before our æra. These were called Chalci, pieces of brass; others, of a more diminutive size, were called Lepta, or Kerma, as being change for the poor. He considers there is

no proof of the coinage of gold in Greece before Philip of Macedon. Athens had no gold money at the beginning of the Peloponnesian war.

The *Roman* coins are divided into consular, imperial, and medallions. The subdivisions of the consular are into Roman asses and coins of the families. Of the imperial there are two subdivisions, Roman and Grecian; the latter being again subdivided into those of provinces, colonies, and municipia. The medallions are likewise divided into Roman and Grecian. The earliest coinage of Rome was of copper, and took place in the reign of Servius Tullius, probably about five centuries before Christ. The Romans are supposed to have borrowed the art from their neighbors, the Etruscans. Of the as, its divisions and its compounds, we have already spoken in a former article. On some of the later Roman, as well as on what were called the Italian asses and their parts, the practice became prevalent of placing the names of many of the principal families of Rome upon the fields of the coins. These form the division which are called family coins. The silver coinage of Rome was introduced in the year 266 before Christ, when the denarius was so termed from its being equivalent to ten asses. Pliny informs us (*Nat. Hist.* xxxiii. 13, edit. Hard. ii. 612) that the coinage of gold was introduced sixty-two years after that of silver. The largest piece of gold was called aureus [AUREUS.] The imperial coins of Rome form the most complete and most interesting series of any extant. Those of copper being found of different sizes, are distinguished into first, second and third brass: in historical importance, as well as for the devices, the largest series is to be preferred. The largest imperial brass coin was the sestertius, and from the Augustan age went by the name of nummus, or æreus. It was worth two pence English. All the large brass coins are of yellow metal; the middle brass, yellow and red; the small, mostly red. No sensible diminution of the sestertius took place till the reign of Alexander Severus, when it lost upwards of a sixth of its weight, and continued to diminish till the reign of Gallienus, when it totally vanished. In this reign the chief copper coins in use were the small brass, or assaria, which, according to the writers of the Lower Empire, were at last numbered at sixty to the silver denarius. Under Valerian and Gallienus, copper washed with silver appeared. In the reign of Diocletian, a coin denominated the follis supplied the place of the sestertius; but the denarii ærei continued quite common down to Constantine I. He introduced a new coinage, and then the follis had its changes and its subdivisions; but its appellation adhered to what had now become the largest brass coin of the Roman empire, to the very latest notices which we have of the Byzantine money. From the time of Augustus to that of Gallienus, the imperial or silver denarius contained sixteen assaria. Under Caracalla a larger denarius was struck, which had a third more, or twenty-four assaria, and was called argenteus: the common denarius of silver being then termed minutus. Under Gallienus, however, the minutus ceased, and argenteus and denarius then became only different names for the Roman silver coin, which at that time contained no less than sixty assaria. Constantine I. introduced the milliarensis, worth somewhere about a shilling of our money: but the argentei, or denarii, were struck as late as the reign of Heraclius.

Aurei and semi-aurei were the sole pieces in gold for near three centuries. Till Sulla's time the aureus continued at thirty silver denarii. In the reign of Claudius, and afterwards, it went for twenty-five silver denarii. Under Philip, aurei of two or three sizes first appear, of a rude fabric: one class of which were called trientes. The weight originally given to the aureus was 120 grains; it afterwards fluctuated to between 80 and 90 grains, and was sometimes even of less weight. Constantine I. accommodated the aureus to his new coinage, and gave it the name of solidus, of six in the ounce of gold. The solidus passed for fourteen milliarenses. It went for rather more than twelve shillings of our money, and continued of the same standard to the very close of the Byzantine empire. The medallions were struck both at Rome and in the provinces, whence the division of this class into Roman and Grecian. The term is applied to all those productions of the Roman mint which exceeded the coins ordinarily current in size, whether in gold, silver, or brass. Though generally conceived to have been struck upon similar occasions to those on which we ourselves coin medals, there are still various circumstances which lead to the belief that they were intended for circulation as money. Medallions, says Pinkerton, from the time of Julius to that of Hadrian are very uncommon and of vast price: from Hadrian to the close of the Western Empire, they are less rare. The types of the Roman medallions are often repeated upon common coin. Those struck in the Grecian territories are the most numerous, and are distinguished from the Roman by their thinness and inferiority of workmanship. Many Roman medallions have S. C. upon them, as being struck by the senate; others have not, as being struck by order of the emperor. The Roman medals called Contorniati, it is the opinion of our first medallists, were no more than tickets of admission for different places at the public games.

The third class of ancient coins, denominated *Barbarian*, consists of those of Lydia, Persia, Judæa, Phœnicia, Numidia and Mauritania, Carthage, Spain, Gaul, and Britain. The coins of Lydia and Persia have been already slightly noticed. The Darics, from their present extreme scarcity, are supposed to have been melted down for his own coinage by Alexander the Great, upon his conquest of Persia. Pinkerton asserts that all the real Darics were of gold, and that the silver coins with the archer (the same type) are later. Nevertheless many of the silver Darics are equally if not more archaic in appearance. Of Persian coins there is a second series, that of the Sassanidæ, beginning about A. D. 210, when Artaxerxes overturned the Parthian monarchy; they extend to the year 636, when Persia was conquered by the Arabian caliphs. The Hebrew coins were struck under the dominion of the family of the Maccabees, and chiefly in the time of Simon the high priest, about the year 150 B. C. They are nearly all of copper, and extremely rude in workmanship; the legends are in Samaritan characters, and the symbols are those appropriate to the nation, such as a sprig, considered as Aaron's rod, sacramental cups, censers, &c. The Hebrew shekel, as it is called, is of silver, about the value of the Greek tetradrachm. Hebrew coins pretending to an earlier date than the Maccabees are spurious. The Phœnician coins are in no instance considered older than the time

of Alexander the Great, and are chiefly referred to the cities of Tyre and Sidon. The Numidian coins are those of Juba I. and II. The Punic or Carthaginian coins are believed to have been struck by Greek artists. Those of Spain agree in character with the coins of the different nations by whom the several colonies of that country were planted, Phœnicians, Greeks, and Carthaginians; and many of them are inscribed with Phœnician, Greek, and Roman legends: a few others are met with, distinguished by what are called Celtiberian characters, not unlike the letters of the Runic and Etruscan alphabets. Of the coins of Gaul, the most ancient have no legends at all; they have very rude devices, and many of them are in base gold: after the Gauls had intercourse with the Romans, some of their coins bear inscriptions which look like Latin, mostly in single words, and not of easy interpretation: they are not unlike many of those which are called early British. Cæsar describes the Britons as a people just emerging from barbarism, and no further acquainted with commerce than to have discovered that it could not be conducted by simple barter alone. His account implies, that however they might have known its use, the Britons had not proceeded so far as actually to coin money: although they had a substitute for it in pieces of brass, or iron rings, or plates regulated by weight. He says, 'Utuntur aut ære, aut annulis ferreis, ad certum pondus examinatis, pro nummo.' (*Bell. Gall.* v. 12.) The passage however is corrupt: for *annulis* some manuscripts read *taleis*, and others *laminis*. Coins however are found in this country which are usually attributed to the very early British kings, in gold, silver, and the inferior metals: ruder in fabric than they would have been had the Britons learned the art of coining them from the Romans. They are without legends, and many of them, like the early Gaulish coins already mentioned, have unintelligible devices: they seem to justify our antiquaries in thinking that Cæsar had not sufficient information to make his testimony quite conclusive. The use of a better sort of money was unquestionably taught the Britons by the Romans very soon after Cæsar's second invasion, when the types improved, and when no one who examines them carefully will doubt that Roman artists were employed upon the dies. The earliest coin which can, with the least appearance of probability, be attributed to any particular British monarch, bears upon it the letters SEGO, possibly for Segonax, one of the four Kentish monarchs who attacked Cæsar's camp at the time of the invasion we have just mentioned; it has also the word TASCIO upon it, which is seen upon numerous other coins which are undeniably British. Cunobelin was a later monarch of Britain, whose name is considered to be abbreviated upon the coins which have CVN, CVNO, and CVNOBELI upon them, together with the words CAMV and CAMVL, the leading letters of Camulodunum, his capital city, supposed to be either Colchester or Maldon in Essex. VER, as well as VERLAMIO at length, for Verulam, occur upon other coins of the same period. One has BODVO, which may or may not be a coin of Bonduca or Boadicea, queen of the Iceni. It is probable that the British coinage closed with the money of Cunobelin; for in a very few years after his decease the second subjection of Britain took place under Claudius, and was so complete and severe, that the country

became rather a Roman than a British island. Gildas (*De Excidio Britanniæ*, c. v.) expressly speaks of a Roman edict which ordained that from that time that all money current among the Britons should bear the imperial stamp. That this prohibition was followed up by the establishment of Roman mints in Britain is highly probable: and certain initial letters, as P. LON. for *pecunia Londini*, &c., are brought forward as evidence of the fact; but most of these initials are equally applicable to other places in the Roman empire where mints were established, and therefore do not afford a proof quite so conclusive as is wanted. The coins of Carausius and Allectus, the seat of whose empire was in Britain, have a strong claim to be considered as the production of British mints. Those who wish to see under one view the 'Coins of the Romans relating to Britain,' will find the fullest information in a little volume recently published under that title by Mr. John Yonge Akerman. 12mo., London, 1836.

MODERN COINS are those which have been struck since the fall of the Western Empire; but it is impossible, in the space to which the present article is necessarily confined, to enter into minute details respecting the series of coins in each country. We shall be brief in our notices of the greater part, that we may devote a larger space to the coins of England.

The series of the coins of Italy, under the Ostrogoths began soon after the year 480 of the Christian æra. The French series commences with Clovis, A. D. 490. That of Spain with Liuva, Prince of the Visigoths, soon after the middle of the sixth century, or about A. D. 567. The states of Germany appear to have struck money very shortly after the age of Charlemagne; as well as the independent Lombard cities, and the Neapolitans. The Papal series of money begins with Pope Hadrian I., A. D. 772. Denmark has coins of an early date, but few of them are intelligible before the time of Canute; contemporary with whose date are the coins of the petty kings of Ireland. In Sweden coinage is said to have begun under Biorno, A. D. 818; and in Norway with Olave or Olaf, A. D. 1066. The Russian coinage is of a later date than the other coinages of Europe. Of Scotland pennies exist ascribed to Alexander I., A. D. 1107: those of William the Lion, A. D. 1165, are numerous. Pennies were the earliest coins in most of the European kingdoms, and a prevailing device upon them was a cross.

The Coins of England form the most complete modern series extant. At what time the circulation of the Roman money ceased, we are ignorant: but Sceattæ (from the Anglo-Saxon sceat, shot, money) are known of the early kings of Kent, some of which must have been struck within the sixth century; and there are others so similar to them in type as to justify their appropriation to the same people, but which from their symbols were evidently coined before their conversion to Christianity. They are too rude generally to admit of description, are of silver, and found of different weights, from seven grains and a half troy to twenty and upwards: their most common weight is from fifteen to nineteen grains. Several plates of these coins are engraved in Ruding; they appear to have been current chiefly from the years 500 to 700. A sceatta of Ethilberht I. of Kent is the earliest Saxon coin which can be appropriated: he reigned from A. D. 561 to 616. Sceattæ also are the only

coins which have hitherto been discovered of Ecghbert, king of Kent, who reigned from 665 to 674. In point of antiquity the penny succeeds; the name of which first appears in the laws of Ina, king of the West Saxons, who began his reign in 688. The word has had numerous etymologies; but that from *pendo*, to weigh, seems the most reasonable: it was then, as it still is, the 240th part of the nummary pound. The half of the penny, called helflinge or halfpfenige, and the fourth part or feorthung, farthing, are mentioned in the Saxon gospels; and a Saxon halfpenny of Edward the Elder is said to exist in the Bodleian collection at Oxford: but we know little more of the earliest divisions of the penny. The coin ascribed as a penny to Ethilberht II. king of Kent, between 749 and 760, with Romulus and Remus on the reverse, is beyond doubt a forgery. As to the rest of the kingdoms of the Heptarchy, no coins have yet been discovered of the South Saxon monarchs. Of the West Saxon kings, we have coins of Athelheard, A. D. 726; and of Beorhtric, who came to the throne in 784. Mercia seems to have been the most wealthy kingdom, and has a large series. It begins with Eadvald, who ascended the throne in 716, followed by Offa (whose queen Cenethreth or Quindred also enjoyed the privilege of coining,) Egeberht, Coenvulf, Ciolvulf I., Beornwulf, Ludican, Wiglaf, Berhtulf, Burgred, and Ciolvulf II., with whose short reign the kingdom expired. The coins of the East Angels begin with Beonna, about the year 690; but in consequence of the temporary annexation of the kingdom to that of Mercia, we have but few coins of succeeding monarchs; those only of Aethelweard, 760, Edmund the Martyr, 855, and Ethelstan, 860, are known. The kingdom of Northumberland has this remarkable peculiarity belonging to its coinage, that from its mints issued, as far as is yet discovered, the only brass coins which were struck by the Anglo-Saxons. The earliest specimen hitherto known is of the reign of Ecgfrith, who ascended the throne in 670: it differs from the stycas of succeeding monarchs in the omission of the moneyer's name on the reverse. Of sixteen succeeding monarchs (whose reigns occupy more than a hundred and thirty years,) no coins have as yet occurred. The first that appears was struck by Eanred, who began to reign in the year 808. One silver penny of Eanred is known. His stycas are of various rude types, without any representation of the monarch, but with a legend similar to that on his silver coin, excepting that the moneyer's name stands on the reverse, without any addition. Other stycas occur of Ethereld his son 840, of Redulf, and of Osbercht, whose reign began in 849. After his reign stycas seem to have fallen into disuse, at least none of a later period have yet been found. Stycas were also struck in the Saxon times by the archbishops of York: Ruding has engraved those of the archbishops Eanbald II., Vigmund, and Wulphere. One coin of Regnald, who was expelled the kingdom of Northumberland in 944, is known; and one of Anlaf, which has upon its reverse the Danish raven: these are pennies. Pennies also are known of Eric. At the beginning of the ninth century Ecgbeorht or Egbert, ascended the throne of the West Saxon kingdom; and in the course of his long reign brought under his dominion nearly the whole of the Heptarchic states: he is therefore, commonly considered as the first sole monarch

of England, notwithstanding those states were not completely united in one sovereignty until the reign of Edgar. On his coins he is usually styled ECGBEORHT REX, and sometimes the word SAXONVM is added in a monogram within the inner circle of the obverse: some of his coins have a rude representation of his head, and some are without it. From Egbert's time, with very few exceptions, the series of English pennies is complete; indeed for many hundred years the penny was the chief coin in circulation. Of the Saxon pennies those of Alfred bear a considerable price; on some he is called AELBRED REX, on others ÆLFRED. Edward the Elder has Saxon buildings on the reverses of several of his coins; and on one Athelstan's is a building intended for York Cathedral. The coins of Canute and of Edward the Confessor are among the most common of the Saxon series: those of Harthacnut are rare. English coins of Canute have frequently, and of Harthacnut in a few instances, been found in Denmark. Numerous coins of Canute and Ethelreld II. have also been found in Ireland.

The archbishops of Canterbury, during a part of the Anglo-Saxon period, also coined money. Pennies exist of Jaenberht, archbishop of Canterbury, from 763 to 790; of Æthilheard, who died in 803; of Vulfred, who succeeded in that year; of Ceolnoth, who died in 870; of Ethered, 871; and of Plegmund, who sat from 891 to 923. In Athelstan's laws two moneyers are allowed to the archbishop of Canterbury, but no archiepiscopal coins of that reign are known, nor indeed any until the time of archbishop Bourchier, a space of several hundred years. Of Harold II.'s pennies there are three distinct types; two with the head looking to the left; the third, which is of very uncommon occurrence, with the head to the right; all have the word PAX in the centre of the reverse. Of the coins of William I. and II. the best account, with engravings of all the types, will be found in the 'Archaeologia,' vol. xxvi. p. 1—25. Of the types there exhibited, those which bear the strongest resemblance to the coins of the Confessor and Harold are ascribed with great probability to the first William; those which most resemble Henry I.'s coins to William II. The coins which present a sceptre on each side of the king's head, are universally ascribed to the Conqueror: those with two stars to William Rufus, the same ornament occurring upon his Great Seal. Most of them read PILLEM, PILEMV, or PILLEMVS REX A, AN, ANGLO, or ANGLOR; the P in Pillem being in reality the Saxon V (W.) Of Henry I.'s pennies, the types are as various as upon those of any monarch of the English series: the reverses bear the name of the mint and moneyer. This had been the Saxon practice, and it continued till the reign of Edward I. Our historians say that Henry I. coined halfpence and farthings; but none such are known in our cabinets. Through the Norman times, and certainly in the reign of Edward the Confessor, halves and quarters of the penny, regularly and nicely cut, to go as half pence and farthings, occur almost whenever parcels of the coins of those periods are discovered. The troubles of Stephen's reign will account for the wretched state in which the pennies of that king occur: these, with what are certainly the earliest pennies of Henry II., are among the worst of the English coins in point of mintage. The barons of this reign are reputed by our his-

torians to have struck coins; but only two or three such are known, and those of persons related to the king. Pennies are extant ascribed to Robert, earl of Gloucester, bastard son of Henry I.; to Henry, bishop of Winchester, base brother of Stephen; and to Eustace, Stephen's son. They are all of great rarity, as is the coin which bears the full length effigies of Stephen and Henry II. The coin of Robert however is by some ascribed to Robert duke of Normandy, the eldest son of the Conqueror. Henry II., according to Ruding, had but one type; but there seems every reason to believe that the pennies which usually go by the name of the first coinage of King Henry III., are in reality the last coinage of Henry II. at the time he reformed his money, A. D. 1180. Of Richard I. and John, we have no English money; but pence, halfpence, and farthings are extant of John, all struck in Ireland. Those coins with a full face, bounded by the inner circle, have the inscription IOHANNES DOM. and were struck at the time his father made him lord of Ireland; those which give the face inclosed in a triangle, and IOHANNES REX, were coined after he ascended the throne. The farthing of this last coinage is extremely rare. Of John's coins, Dublin appears to have been the only place of mintage. Henry III.'s pennies (if those which we have considered as the latest pennies of Henry II. really do not belong to Henry III.) have usually the numerals added to his name, HENRICVS REX III. Some of his pennies have HENRICVS REX TERCI. and a few HENRICVS REX ANG. His coinage, if we may judge from the quantity of his pennies which still remain, must have been a very extensive one. Halfpence and farthings are spoken of in a record of this reign, but none have appeared. The pennies of Edward I. II., and III., are usually thus distinguished by our antiquaries: those which give the king's name EDW. are ascribed to Edward I.; those with EDWA., EDWAR., and EDWARD, to Edward II.; those with EDWARDVS to King Edward III. A few with EDW. are known certainly to belong to Edward I., particularly those which have a moneyer's name on the reverse, ROBERT DE HADELEIE, who is known from records to have been a moneyer in 1280. Both Henry III. and Edward I. struck pennies in Ireland, in the manner of John's later coins, representing the king's head within a triangle. Edward I. struck halfpence and farthings in his great coinage of 1279, which are not unfrequently met with in the cabinets of collectors, as well as halfpence and farthings with the Irish type, struck at Dublin and Waterford. It may be sufficient, as regards these small coins, to say that they continued in currency for several centuries. The last silver farthing is known to have been coined in the reign of Edward VI., but no specimen of it has been seen: the last silver halfpenny was struck under the Commonwealth. The penny has continued through every reign to the present. Our limits will not allow of further minute description. Among the rarest in the later part of the series may be reckoned the pennies of Edward VI., Mary, and Philip and Mary. From the reign of Edward I. to Henry VIII., we have pennies which bear the privy marks of the bishops of Durham; from Henry IV. to Henry VIII., we have coins struck in the archiepiscopal mint at York; and others of the see of Canterbury, from archbishop Bourchier to archbishop Cranmer. The first English pennies weigh 22½ grains

troy. Towards the close of Edward III. the penny weighs 18 grains, and in the reign of Edward IV. it fell to 12, after previously sinking to 15. In Edward VI.'s time, 1551, the penny was reduced to 8 grains, and after the 43rd of Elizabeth to 7$\frac{3}{4}\frac{1}{4}$ grains, at which weight it still continues. The penny affords the best rule for estimating the other silver coins.

According to Grafton, Henry III., in 1249, ordered groats to be stamped, but none such are mentioned in any record. There is a large piece however found occasionally in the cabinets of the curious, sometimes ascribed to Edward I., but whether his, or Edward II.'s, or Edward III.'s, is uncertain. It occurs of different weights, from 80 to 138 grains, and represents the king's head on its obverse, within a double tressure of four arches, with mullets and roses; inscribed EDWARDVS DI. GR. REX. ANGL. The reverse, besides a continuation of the king's titles in the outer circle, has CIVI. LONDONIA within an inner one. There can be little doubt but that it was a trial-piece. Groats and half-groats were not introduced for currency till the 25th Edward III., and continue at present, though not for circulation. A silver fourpenny piece for circulation, of a different type from the ordinary groat, has been issued for circulation by King William IV., A. D. 1836. The groat received its name from the French *gros*, a large piece. In the time of Henry VII. and Henry VIII. groats and half-groats were struck in the archiepiscopal mints of Canterbury and York. It was one of the charges against Wolsey, that he had put the cardinal's hat upon the king's money, as is seen upon his York groats and half-groats.

The testoon, or shilling, was first coined by Henry VII., in 1503. The appellation of testoon was from the *teste* or *tête*, the head of the king upon it: that of shilling is of old but uncertain origin. Pinkerton says, that coins of that name had been struck at Hamburg in 1407. The scilling was a denomination of money in the Saxon times.

Henry VIII. struck some patterns for a silver crown; but the first crown for currency was struck by Edward VI., with the half-crown, sixpence, and threepence. Queen Elizabeth, in 1558, coined three-halfpenny, and in 1561 three farthing pieces. Pinkerton says they were dropped in 1582, but there is a three-halfpenny piece in the cabinets of the British Musuem, bearing the date of 1599. Charles I. struck twenty-shilling and ten-shilling pieces in silver, but they were of very limited currency.

From the 43rd Elizabeth, 1601, the denominations, weight, and fineness of English silver have remained the same. It is worthy of remark, that, during all his distresses, King Charles I. never debased his coin. The gold coinage of England is next to the silver in point of antiquity. The gold current with us, till the 41st Henry III., was foreign. In that year, 1257, a manuscript chronicle, in the archives of the city of London, states that the king made a penny of the finest gold, which weighed two sterlings, and willed that it should be current for twenty-pence. Three specimens of it only are yet known to have reached us; and two out of the three are preserved in the British Museum. They are from different dies. This coin is engraved in Snelling's 'View of the Gold Coin,' in the last edition of Folkes's 'Tables,' and in Pinkerton's 'Essay on Medals.' It is from Edward III. that the series of English gold coin

really commences, for no more occurs till 1344, when that prince struck florins. The half and quarter florin were struck at the same time. The florin was then to go for six shillings, though now it would be intrinsically worth nineteen. This coin being inconvenient, as forming no aliquot part of larger ideal denominations, seems to have been withdrawn. None have yet been found, but a few quarter-florins are preserved in cabinets, and one half-florin is known. In consequence, in the same year, the noble was published, of 6*s.* 8*d.* value, forming half a mark, then the most general ideal form of money. The obverse represents the king standing in a vessel, asserting the dominion of the sea. The noble was also attended by its half and quarter. This coin, sometimes called the rose noble, together with its divisions, continued the only gold coin, till the angels of Edward IV., 1465, stamped with the angel Michael and the dragon, and the angelets or half-angels were substituted in their place. Henry V. is said to have diminished the noble, still making it go for its former value. Henry VI. restored it to its size, and caused it to pass for 10*s.*, under the new name of ryal. The ryal of 10*s.* and the angel of 6*s.* 8*d.*, with their divisions of half and quarter, then continued the sole gold coins till, in 1485, Henry VII. issued the double ryal, or sovereign, of 20*s.*, accompanied by the double sovereign of 40*s.* Henry VIII., in 1527, added to the gold denominations the crown and half-crown, at their present value, and in the same year gave sovereigns of 22*s.* 6*d.*, ryals of 11*s.* 3*d.*, angels of 7*s.* 6*d.*, and nobles at their old value of 6*s.* 8*d.* In 1546 he struck sovereigns of the former value of 20*s.*, and half sovereigns in proportion. Henry VIII.th's gold, like his silver coin, was in the latter part of his reign much debased. Edward VI. coined a treble sovereign; and under James I. the sovereign was called a unite. The former coins however continued, with a few variations, till Charles II. coined the guinea, so called from the Guinea gold, out of which it was first struck in 1663, when it was proclaimed to go for 20*s.*, but by tacit and universal consent never went for less than 21*s.* Charles II. likewise issued half guineas, double guineas, and five guinea pieces, which his successors, till King George IV., continued. George I. and George III. issued quarter guineas; and George III. pieces of seven shillings in 1797. In 1815 sovereigns and half-sovereigns, of 20*s.* and 10*s.* each, were again coined, and the guinea and half-guinea were gradually withdrawn from circulation.

With the exception of the styca, the copper coinage of England arose a thousand years later than its silver. Queen Elizabeth had a great aversion to copper money, although the necessities of her people for small change were obvious. She suffered a pattern to be struck as the PLEDGE. OF. A. HALF PENNY, and James I. and Charles I. actually issued farthing tokens also as pledges; but no authorized coinage of copper was struck till 1672, when halfpence and farthings of that metal were first made public money. In 1684 tin farthings were coined, with a stud of copper in the centre. Others, as well as halfpence of the same metal, were struck by James II., and William and Mary. In 1693, the tin was called in, and copper renewed. Pieces of a penny and twopence in copper were coined in the reign of George III. The latter did not answer their purpose, and were soon discontinued. The penny pieces remain in circulation.

STATISTICS OF THE COINAGE.

For the following pages we are indebted to a most elaborate and valuable quarto volume, entitled "A Manual of Gold and Silver Coins of all Nations; Showing their History and Legal Basis, and their Actual Weight, Fineness and Value, chiefly from Original and Recent Assays. By J. R. Eckfeldt and William E. Du Bois, Assayers of the Mint of the U. S. Illustrated by numerous engravings of Coins."

To those who wish to pursue this subject further, and to possess a professional and complete work upon Coins and Coinage, this *Manual of Coins* will be very useful.

The coinage and monetary system of our own country, may properly claim in this treatise a somewhat extended notice.

The territory which now bears the name of *The United States*, was in the possession of savage tribes until the seventeenth century. In 1607 the first company of emigrants arrived from Europe, and established the colony of Virginia. At intervals of a few years, new settlements were made in various other quarters; and before the close of that century, the foundations were laid for twelve of the thirteen colonies, which eventually became a Union of free States.

The earliest metallic currency of each colony consisted chiefly of the coins of its mother country. In Massachusetts, however, (and doubtless in all the settlements,) specie was so scarce, that for many years it was common to pay taxes, and to carry on internal trade, by transferring, at certain rates, cattle, skins, and the products of the soil. Various considerations, enhanced by the inconvenience and uncertainty of such a medium, induced the Massachusetts colony in 1652 to establish a mint. The law enacted for that purpose, provided for the coinage of shillings, sixpences, and threepences, to be of the fineness of sterling silver (925 thousandths), and by a reduction of weight, to be "two-pence in the shilling of less valew than the English coyne." The mint met with much opposition from the British crown, whose prerogative was invaded by its operations, but continued in existence more than thirty years, during which time a considerable amount of coin was issued. These coins are now extremely scarce, and indeed are not to be found except in the cabinets of the curious. Only the shilling has been seen at this mint, the best specimens of which, at this day, weigh from 64 to 67 grains, and by a recent assay prove to be 926 thousandths fine; the intrinsic value, therefore, is about 16¾ cents. They are a rude coinage, very thin, and of various diameters; and there is some variety in the impressions; but the date of 1652 appears on all of them. The device of a *pine tree* on one side, has given to the series the common designation of the "pine tree coinage." They were taken in England at a discount of one-fourth of their home value.

The example of Massachusetts was followed by Maryland, where silver and copper coins were issued in 1662. These pieces were to be equivalent to the British, but in reality were not much heavier than the like denominations coined at Boston.

These were the only issues of silver coin previous to the independence of the States. There were, however, various pieces of copper struck at different periods; as, in 1694, the half-penny for the Carolinas, a two-penny piece and penny in 1723, another penny in 1733, and a half-penny for Virginia in 1773. After the revolutionary struggle of 1776–82, and before the establishment of the National Mint, there were various emissions of silver and copper by States and individuals, which will be noticed farther on.

As the population and trade of the colonies increased, foreign gold and silver coins found their way into the country, and became a part of the circulating medium. These were chiefly the guinea, the joe and its half, the doubloon and pistole, in gold; the dollar and its parts, the pistareen and its parts, and the British shilling and sixpence, in silver. French crowns were not known until the Revolution, when they became common. But of the specie currency, no piece was so well known as the Spanish-American dollar; insomuch that, about the epoch just referred to, it became the effective standard or unit of our moneys.

The *pound* of the colonies was at first the same as the pound sterling of England, being simply a money of account. This relation, in process of time, became greatly altered, in consequence of excessive issues of paper by the colonial authorities; but as these issues were greater in some of the colonies than in others, the proportion was very unequal and complicated. The following were the rates of the colonial pounds, in sterling pounds and Spanish dollars, after the Revolution:

	New England and Virginia.	*New York and N. Carolina.*	*Middle States.*	*S. Carolina and Georgia.*
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Pound sterling, . .	1 6 8	1 15 6$\frac{2}{3}$	1 13 4	1 0 8$\frac{1}{3}$
Spanish dollar, . .	6 0	8 0	7 6	4 8

Peace was scarcely concluded, before the preliminary step was taken towards a national coinage. Congress directed the Financier of the confederation, Robert Morris, to lay before them his views upon the subject of coins and currency. The report was presented early in 1782, and is stated by Mr. Jefferson to have been the work of the Assistant Financier, Gouverneur Morris. It will be interesting to trace the steps by which three grand benefits have been secured to this country; the establishment of a uniform national currency—the rejection of mere moneys of account, or rather, making them the same with real moneys—and the adoption of a decimal notation.

All these objects were in the eye of the Assistant Financier. He first labored to harmonize the moneys of the States; and found that the $\frac{1}{1440}$th part of a dollar (Spanish) was a common divisor for the various currencies. Starting with this fraction as his unit, he proposed the following table of moneys:

Ten units to be equal to one penny.
Ten pence one bill.
Ten bills one dollar, (about two-thirds of the Spanish dollar.)
Ten dollars one *crown*.

The report contains this observation: "Although it is not absolutely necessary, yet it is very desirable, that money should be increased in a decimal ratio; because by that means, all calculations of interest, exchange, insurance and the like, are rendered much more simple and accurate, and of course more within the power of the great mass of the people."

The subject was discussed repeatedly in Congress, but no further step was taken until 1784, when Mr. Jefferson, on behalf of a committee appointed for the purpose, brought in a report, disagreeing with that of the Financier, except as to the decimal system. The following remarks occur in this document: "The most easy ratio of multiplication and division, is that of ten. Every one knows the facility of decimal arithmetic. Every one remembers, that when learning money arithmetic, he used to be puzzled with adding the farthings, taking out the fours, and carrying them on; adding the pence, taking out the twelves, and carrying them on; adding the shillings, taking out the twenties, and carrying them on; but when he came to the pounds, where he had only tens to carry forward, it was easy and free from error. The bulk of mankind are schoolboys through life. Certainly, in all cases, where we are free to choose between easy and difficult modes of operation, it is most rational to choose the easy. The Financier, therefore, in his report, well proposes that our coins should be in decimal proportions to one another."

He found fault with the *unit* of Mr. Morris, first, on account of its diminutive size: "A horse or bullock of eighty dollars value would require a notation of six figures, to wit, 115,200 units;" secondly, because of its want of correspondence in value, with any known coins. In lieu of this the Spanish dollar was proposed, as being of convenient size, capable of easy actual division, and familiar to the minds of the people. It was added, that the course of our commerce would bring us more of this than of any other foreign coin; and besides, the dollar was already as much referred to as a measure of value, as the respective provincial pounds. Upon this basis, it was proposed to strike four coins, viz:

A golden piece, of the value of ten dollars.
A dollar in silver.
A tenth of a dollar, also in silver.
A hundredth of a dollar, in copper.

The Assistant Financier conceded something to Mr. Jefferson's views, but adhered to the main principles of his own scheme. It would be out of place to enter into the arguments offered on behalf of each proposition; it is sufficient to say, that Congress in 1785 adopted Mr. Jefferson's report, and in the following year made legal provision for a coinage upon that basis.

All these proceedings were, of course, under the *Confederation*, which lasted from 1778 to 1787. An article in that compact provided as follows: "The United States, in Congress assembled, shall have the sole and exclusive right and power of regulating the alloy and value of coin struck by their own authority, or by that of the respective States." Some of the States issued copper coins during that period. How long

they continued current cannot be stated; but at this day, those of them that remain, are in the custody of coin-collectors. The cent of Massachusetts varies in weight from 148 to 164 grains; the New Jersey piece, 128 to 154 grains; the Connecticut coin is the most irregular, varying from 96 to 144 grains. The Vermont cent of 1786, weighs about 110 grains. There are also other varieties, particularly the "Nova Constellatio," of thirteen stars, and another piece with the same significant number of *rings*, conjoined, both of which were coined in Massachusetts.

The Constitution of 1787 arrested all these local issues, and vested the right of coinage solely in the general government. The establishment of a mint was, however, still delayed. In the well known report on moneys, weights and measures, made to Congress in 1790 by Mr. Jefferson, then Secretary of State, it was remarked: "The experiment made by Congress, in 1786, by declaring that there should be one money of account and payment through the United States, and that its parts and multiples should be in a decimal ratio, has obtained such general approbation, both at home and abroad, that nothing seems wanting but the actual coinage, to banish the discordant pounds, shillings, pence, and farthings of the different States, and to establish in their stead the new denominations."

On the 2d April, 1792, a code of laws was enacted for the establishment and regulation of the mint, under which, with slight amendments, the coinage was executed for forty-two years.

The denominations of coin, with their rates, were as follows:

Gold. The eagle of ten dollars, to weigh 270 grains, the half and quarter in proportion; all of the fineness of 22 carats, or 917 thousandths.

Silver. The dollar of 100 cents, to weigh 416 grains; the half, quarter, tenth or dime, and twentieth or half-dime, in proportion; the fineness to be 1485 parts in 1664, or 892·4 thousandths.

Copper. The cent, to weigh 264 grains; the half-cent in proportion.

Since the act of 1792, the following alterations in the standards have been made:

On the 14th January, 1793, the weight of the cent was reduced to 208 grains; the half-cent in proportion.

January 26th, 1796. President Washington issued a proclamation (as he had been empowered to do by law), that "on account of the increased price of copper, and the expense of coinage," the cent would be reduced to 7 dwts. or 168 grains, and the half-cent in proportion. The copper coins have since remained at this standard.

June 28th, 1834. An act was passed, changing the weight and fineness of the gold coins, and the relative value of gold to silver. Before stating the alterations, it may be proper to observe, that the estimate of gold as being worth fifteen times as much as silver, which was the original basis, was found too low at the market value; which, although always fluctuating, was nearer sixteen to one, upon a general average. The effect of our legal proportions was to reduce the coinage of gold, and to restrain its circulation; being always at a premium, the coin was immediately exported to Europe, in the course of trade, and there quickly wrought into other shapes.

To provide a remedy for this evil, engaged the attention of some of our most eminent statesmen for a series of fifteen years. At length, in June 1834, the weight of the eagle was reduced by law to 258 grains (the parts in proportion), of which 232 grains must be fine gold, making the fineness 21 carats $2\frac{1}{4}\frac{3}{2}$ car. grains, or $899\frac{225}{1000}$ thousandths. This was an increase of $6\frac{68}{100}$ per cent. on the former value of gold. The silver coinage was not changed.

The disadvantages of the complex standards of fineness, both in gold and silver, which were difficult to be expressed or remembered, and very inconvenient in regard to the frequent calculations which were based upon them, early determined the present Director to endeavor to effect an improvement. The standard of nine-tenths fine, as adopted in France and some other countries, was obviously the most simple, and, upon every consideration, the most suitable. To bring our silver coins to that proportion, without changing the amount of fine silver in them, it was only necessary to put less copper, by $3\frac{1}{2}$ grains, in the dollar, reducing its weight to $412\frac{1}{2}$ grains. The weight of the gold was not to be changed, but the fineness increased about three-fourths of one thousandth, a difference far within the scope of the legal allowance, and of course hardly appreciable. These proportions were incorporated in a carefully digested and consolidated code of Mint Laws, which was enacted by Congress in January 1837. By that act, the eagle is to be 900 thousandths fine, and to weigh 258 grains; the half and quarter in proportion; and the dollar, at the same fineness, to weigh $412\frac{1}{2}$ grains; the parts in proportion. The allowed deviation in fineness, for gold, is from 898 to 902; for silver, 897 to 903.

Recapitulation of the various standards of the Gold and Silver Coins.

	GOLD EAGLE.		SILVER DOLLAR.	
	Weight, grs.	*Fineness, thous.*	*Weight, grs.*	*Fineness, thous.*
Act of April 2, 1792, . . .	270	916·7	416	892·4
Act of June 28, 1834, . . .	258	899·2		
Act of January 18, 1837, . .	258	900	412·5	900

It will be proper, in concluding this article, to explain briefly the organization of the Mint of the United States. Until the year 1835 there was but one institution, which was located at Philadelphia. In that year three *branches* of the mint were created by Act of Congress. Two of these were for the coinage of gold only, and were to be situated at the towns of Charlotte in North Carolina, and Dahlonega in Georgia—central points of the gold mining region. The third branch was for both gold and silver, and located at New Orleans, the commercial emporium of the southwest. These three institutions, which, in the view of the law are not distinct mints, but rather branches of the mint, are respectively managed by Superintendants, who are under the control of the Director of the parent mint. The branches went into operation in the year 1838. Their coinage is uniform with that of the establishment at Philadelphia, being systematically tested there for approval.

The whole mint establishment, thus constituted, is itself a bureau or branch of the Treasury Department of the general government, and is under the supervision of the Secretary of the Treasury. Its operations are annually reported through the President to Congress, and are laid open to the public through that body.

COINAGE OF THE UNITED STATES.

	GOLD.	SILVER.	TOTAL.
1793 to 1800,	$1,014,290	$1,440,455	$2,454,745
1801 to 1810,	3,250,745	3,569,165	6,819,910
1811 to 1820,	3,166,510	5,970,811	9,137,321
1821 to 1830,	1,903,090	16,781,047	18,684,137
1831,	714,270	3,175,600	3,889,870
1832,	798,435	2,579,000	3,377,435
1833,	978,550	2,759,000	3,737,550
1834,	3,954,270	3,415,002	7,369,272
1835,	2,186,175	3,443,003	5,629,178
1836,	4,135,700	3,606,100	7,741,800
1837,	1,148,305	2,096,010	3,244,315
1838,	1,809,595	2,333,243	4,142,838
1839,	1,355,985	2,189,296	3,545,181
1840,	1,675,302	1,726,703	3,402,005
1841,	1,091,598	1,132,750	2,224,348
	$29,182,720	$56,217,185	$85,399,905

The mint at Philadelphia was the only one in operation until 1838. From that year to 1841, both inclusive, the amount of coinage at the mint and its branches was as follows:

	GOLD.	SILVER.	TOTAL.
Mint at Philadelphia,	$4,581,175	$5,848,489	$10,429,664
Branch Mint at New Orleans,	326,190	1,533,503	1,859,693
Branch Mint at Charlotte, N. C.	507,025	. . . .	507,025
Branch Mint at Dahlonega, Geo.	517,990	. . . .	517,990
Total, 1838–41,	$5,932,380	$7,381,992	$13,314,372

The whole amount of coinage *in pieces*, from 1793 to 1841, at the mint and branches, has been as follows:

GOLD.	PIECES.	VALUE.
Eagles,	291,009	$2,910,090
Half Eagles,	4,700,257	23,501,285
Quarter Eagles,	1,108,538	2,771,345
SILVER.		
Dollars,	1,674,822	1,674,822
Half Dollars,	97,895,662	48,947,831
Quarter Dollars,	8,200,502	2,050,125 50
Dimes,	23,765,325	2,376,532 50
Half Dimes,	23,357,478	1,167,873 90
	160,993,593	$85,399,904 90

NOTE.—The coinage of Gold and Silver since 1841, has been as follows:

	GOLD.	SILVER.	TOTAL.
To 1841,	$29,182,720	$56,217,185	$85,399,905
1842,	1,834,170 50	2,332,750	4,166,920 50
1843,	8,108,797 50	3,834,750	11,943,547 50
1844,	5,428,230	2,235,550	7,663,780
1845,	3,756,447 50	1,873,200	5,629,647 50
1846,	4,034,177	2,558,580	6,592,757
1847,	20,221,385	2,374,450	22,595,835
1848,	3,775,512 50	2,040,050	5,815,562 50
Total,	$76,341,440	$73,466,515	$149,807,955

Being a total of seventy-six millions in Gold. Our readers will see by reference to our next No. that the Gold Coinage in Great Britain *in one year*, (1821) was upwards of forty-six millions of dollars in value.—[*Editor B. M.*]

The amount of copper coinage in the same period, was 89,439,030 cents, and 7,440,713 half cents, altogether of the value of $931,503 86; which was all coined at Philadelphia.

No eagles were coined from 1805 to 1837, inclusive. No half eagles in 1816 and 1817. No quarter eagles before 1796, nor in 1800–01, nor from 1809 to 1823, except in 1821, nor in 1828 and 1841. No dollars from 1806 to 1838, except 1,000 in 1836. No half dollars from 1797 to 1800, nor in 1815. No quarter dollars before 1796, none from 1798 to 1803, none from 1808 to 1814, and none in 1817, 1824, 1826, 1829 and 1830. No dimes before 1796, none in 1799, 1806, 1808, 1812, 1813, 1815 to 1819, 1824, and 1826. No half dimes in 1798, 1799, 1804, and 1806 to 1828. No cents (except a few specimen pieces,) in 1815 and 1823. No half cents in 1798, 1801, 1812 to 1824, 1827, 1830 and 1832, and none since 1836.

COINAGE OF MEXICO.

		GOLD.	SILVER.	TOTAL.
Ten years,	1801–10, . . .	$11,020,000	$216,220,000	$227,240,000
Do.	1811 20, ...	6,030,000	106,130,000	112,160,000
Do.	1821–30, ...	3,680,000	96,080,000	99,760,000
	1831, ...	No returns.	11,720,000	. . . .
	1832–33, ...	No returns.	No returns.	. . . .
	1834, ...	210,000	11,830,000	12,040,000
	1835, ...	350,000	11,650,000	12,000,000
	1836, ...	570,000	11,480,000	12,050,000
	1837, ...	380,000	11,230,000	11,610,000

For a long term of years, previous to the Revolution, the annual coinage averaged nearly 23 millions of dollars. From the era just named, which had its commencement in 1810, the sum has been greatly reduced. Indeed, although the independence of the nation has long been fully established, yet the ever disturbed state of political affairs produces an effect upon the mints and mines, quite as depressive as was the war of the revolution. The annual coinage of late years, is about 12 millions of dollars.

There are at present, seven mints in operation. As there is a characteristic difference in the value of their coins, it will be interesting to know in what proportion they severally contribute to the annual sum of Mexican coinage. The returns of 1836 and 1837, are here given.

MINTS.	1836. GOLD.	1836. SILVER.	1836. TOTAL.	1837. GOLD.	1837. SILVER.	1837. TOTAL.
Mexico, . .	$20,000	$734,000	$754,000	$10,000	$516,000	$526,000
Zacatecas, .	None.	5,460,000	5,460,000	None.	5,238,000	5,238,000
Guanajuato,	171,000	2,341,000	2,512,000	151,000	2,857,000	3,008,000
Potosi . .	None.	1,099,000	1,099,000	None.	1,111,000	1,111,000
Durango, .	359,000	1,063,000	1,422,000	207,000	721,000	928,000
Gualadajara,	23,000	561,000	584,000	13,000	567,000	580,000
Chihuahua,	None.	224,000	224,000	None.	225,000	225,000

It appears then that they rank in the following order: 1. Zacatecas, 2. Guanajuato, 3. Durango, 4. Potosi, 5. Mexico, 6. Guadalajara, 7. Chihuahua.

[*Continued on p. 553, March No.*]

BANK ITEMS.

BANK OF KENTUCKY.—The Supreme Court of Pennsylvania, *in banc*, was occupied the greater part of last week, in listening to the arguments of several of the most eminent lawyers of the State, in the important suit for the last ten years, pending between the Bank of Kentucky, and the Schuylkill Bank of this city. The case is one of great magnitude, involving over one and a quarter million of dollars, and if decided in favor of the Kentucky Bank, completely sweeps off the entire property of the Schuylkill Bank. If, on the other hand, the decision should be against the Kentucky Bank on the merits of the issue, the stock of the Schuylkill Bank, now quoted at from $3 to $5 per share, will be worth in real value, about $35 per share, and, with the advantage of a charter running to 1854, which is whole and unbroken, would probably be worth on the market at least $40 per share. The cause of litigation, as the public know, grew out of the extensive frauds of Levis, the Cashier of the Schuylkill Bank, and agent in the transfer of stock for the Kentucky Bank. The argument last week was an appeal from a decision in equity, in favor of the Kentucky Bank, by Judge King, who, we believe, heard the case, under a special act of the Legislature. The case has been elaborately argued, and with an ability that hath inspired the unfortunate holders of the Schuylkill Bank stock with the hope that all is not lost that is in danger.—[*Philadelphia Ledger*, 15 *January*.]

BANK OF VIRGINIA.—A. Milhado, Esq., was on the 2d January, elected President of the Branch Bank of Virginia at Norfolk, in place of E. J. Higgins, Esq., deceased.

BANK OF ENGLAND.—About two years ago, a clerk in the Bank of England lost his pocket book, containing a £1,000 note. A few days since, it was presented to the cashier, passed by him to the pay clerk, and paid in gold. The leading figure of the number of the note, was found to have been changed from a cypher to 9—, this being done, because the true number had been advertised and payment stopped. The several clerks concerned have been ordered to pay the money in the following proportions:—

The cashier who marked the note for payment, is ordered to pay £300, because four figures out of five agreed with the number of the stopped note. The inspector has to pay £150, because he handed the note to the cashier as a genuine note. The clerk who gave gold for the two £500 notes, has to pay £100, because he believed the person who came, to be a banker's clerk. The clerk who received "James Street," as a sufficient description, has to pay £100, because he did not insist on a fuller description. The clerk who originally lost the note, has to pay £350.

STATE BANK OF INDIANA.—James R. Shields, Esq., has been elected President of the New Albany Branch of the State Bank of Indiana, in place of Mr. Fitch, deceased; and Victor A. Pepin has been elected Cashier, in place of Mr. Shields, resigned.

BANK OF THE STATE OF N. C.—George W. Mordecai, Esq., was, on the first of January, 1849, elected President of the Bank of the State of North Carolina, in place of Duncan Cameron, Esq., resigned.

BANK OF THE STATE OF S. C.—The following gentlemen were elected President and Directors of the Bank of the State of South Carolina, in December last, by the two houses of the S. C. Legislature.

President: F. H. Elmore. *Directors:* S. L. Glover, P. M. Cohen, E. Carson, Thos. Lehre, Robt. Fishburn, R. G. Stone, Geo. Robertson, W. M. Lawton, F. R. Shackelford, R. Caldwell, Geo. S. Cameron.

There was no election for a twelfth director, Mr. W. C. Dukes and Mr. Steinmeyer having each received 93 votes.

BANKS OF MASSACHUSETTS.—The following Banks have increased their Capital Stock, under Acts of the Legislature of 1848.

	Original Capital.	*Addition.*	*Present Capital.*
Agawam Bank, Springfield, . .	$100,000	$100,000	$200,000
Barnstable Bank, ...		50,000	50,000
Brighton Bank, Brighton, ...	200,000	50,000	250,000
Boylston Bank, Boston, ...	150,000	50,000	200,000
Central Bank, Worcester, ...	100,000	50,000	150,000
Chicopee Bank, Springfield, . . .	200,000	100,000	300,000
Fitchburg Bank, Fitchburg, . . .	150,000	50,000	200,000
Hampshire Manufacturers Bank, .	150,000	50,000	200,000

NEW BANKS ESTABLISHED IN MASSACHUSETTS.

	Capital.	*Commenced Busines.*
The Grocers' Bank, Boston, ...	$250,000	September 12, 1848.
Holyoke Bank, Northampton, ...	100,000	September 1, 1848.
Mechanics Bank, Worcester, ...	100,000	October 6, 1848.
Newton Bank, Newton, ...	100,000	October 14, 1848.

The Barre Bank, at Barre, chartered, but not yet in operation.

FARMERS BANK OF DELAWARE.—Andrew C. Gray, Esq., of New Castle, has been elected President of the New Castle Branch of the Farmers' Bank of the State of Delaware, in place of Thomas Janvier, Esq., resigned.

BANK OF NEWBURY.—The Capital of the Bank of Newbury, at Wells River, Vermont, has been increased to $75,000.

MERCHANTS' EXCHANGE BANK.—The charter of this Bank will expire in June next, but as steps have been taken to form an organization under the general Banking Law, it is presumed that no obstruction in the business of the institution will take place. Its capital is to be $1,000,000, with the privilege to increase it to $2,000,000, and to commence business as soon as may be after $500,000 thereof is subscribed for and secured. The limitation of the Company is to the first of January, 1899. One of the articles of association provides that any of the present stockholders of the Bank, shall at their option be entitled to shares in the new institution to an amount corresponding with those that they hold in the present bank. The capital under its present organization, is $750,000.—[*N. Y. Courier and Enquirer.*]

BANK OF CALEDONIA.—S. B. Mattocks, Esq., has been appointed Cashier of the Bank of Caledonia, at Danville, Vermont, in place of John A. Page, Esq., resigned.

BANK OF BURLINGTON.—Philo Doolittle, Esq., has been elected President of the Bank of Burlington, Vermont, in place of E. T. Englesby, Esq., who declined a re-election. Mr. E. had been President of the institution twenty-five years.

BANK FAILURES.—The Bank of Norwalk and the Bank of Sandusky, Ohio, have suspended specie payments. Their liabilities and coin were as follows, in November, 1848.

	Circulation.	*Deposits.*	*Specie.*
Bank of Norwalk, ...	$110,000	$2,700	$16,000
Bank of Sandusky, ...	112,000	36,000	21,000

NORTH RIVER BANK, NEW YORK.—The resignation of Mr. A. B. Hays, Cashier of the North River Bank, which was announced this morning, and the reasons which led to it, have been the subject of much conversation to-day. The stockholders give out that he has been lending money to a party, without the sanction of the Board of Directors. The Bank some years ago made large loans to Mr. Steinberger, a drover and a large speculator in live stock, well known throughout the United States. The paper he first gave the Bank was of undoubted character, but it depreciated, and at the time of Steinberger's great failure, was such, that of a debt of $100,000 due to the Bank, only $60,000 was realized. This amount stood for some time, and was charged to profit and loss by the Bank, and the accounts squared.

It now appears, that Mr. Steinberger a second time made application to Mr. Hays, and obtained from him loans to a considerable amount, and, as we are informed, made without the assent of the Board of Directors. Steinberger, in order to obtain the loan, represented to Mr. Hays the certainty of profit that would attend the use of the money, and urging at the same time, that he would be enabled to meet a part of the old debt, $40,000. The new debt of Mr. Steinberger amounts to about $60,000, (besides the old debt,) and the debtor is now far on his way to California. The officers of the Bank, having some information of this transaction, took measures to secure the debt, but the Bank will lose on the new account about $30,000, so far as can be ascertained. The balance is secured by the bonds of Mr. Hays, ($18,000,) and a claim upon the Mammoth Hotel, at Fairfield, Ct., and in part by Mr. Steinberger.

Mr. Hays has been Cashier twenty-five years, and he is the oldest and best known Cashier in this city, and his course in thus loaning money, is the more inexplicable on that account. No one pretends to say, that this loan has been made by Mr. Hays for the benefit of any one, except the Bank, and a question arises, whether he has overstepped the discretionary power given to Cashiers in making loans. As the affairs of the Bank will be examined, and an official statement made, any farther account of the transaction is unnecessary.

[*N. Y. Express*, 18 *January*.]

BANKS OF SOUTH CAROLINA.—The following dates are given in an exchange paper, as the years in which the charters of the several Banks will expire, to which are added the par value of the stocks and the present amount of capital.

Location.	*Name.*	*Capital.*	*Par Value.*	*Charter Ex.*
Charleston,	Bank of Charleston, ...	$3,160,800	$100	1856.
"	Bank of South Carolina, . . .	1,000,000	45	1855.
"	Bank of the State of S. C. . . .	1,123,353		1856.
"	Planters and Mechanics Bank, .	1,000,000	25	1853.
"	South-Western Rail Road Bank,	869,425	25	
"	State Bank, ...	1,000,000	100	1855.
"	Union Bank of S. C.	1,000,000	50	1852.
Camden,	Bank of Camden, ...	377,600	50	1855.
"	Branch Bank of the State of S. C.			
Columbia,	do. do. do.			
"	Commercial Bank, ...	800,000	20	1853.
Cheraw,	Merchants Bank of S. C. . . .	400,000	100	1856.
Georgetown,	Bank of Georgetown, ...	200,000	25	1857.
Hamburg,	Bank of Hamburg, ...	500,000	50	1856.
		$11,431,183		

Bank Capital of Charleston, $9,153,583, from which should be deducted the capital allotted to the Branches of the Bank of the State of South Carolina, at Camden and Columbia.

ROBBERY OF THE AUGUSTA BANK.—The Augusta Bank, (Maine.) was broken open between Saturday night, 30 December, and the following Monday morning.

The Augusta Bank is situated in the basement of the new hotel, which forms a part of a brick block recently erected on Water street. The hotel is unfinished and unoccupied. The vault of the Bank adjoins one of the lower rooms of the hotel, and is only separated from it by a brick wall one foot thick. The mortar used in the construction of this wall is comparatively green. The burglar first entered the room adjoining the vault, and with a small crowbar knocked away the bricks sufficiently to afford an entrance to the vault.

The plundered property was confined in a safe of most approved construction, secured by Hull's celebrated patent gunpowder lock. It was opened by a key which must have been prepared before the safe was put into the vault. When the plunder had been removed the safe was coolly locked again. In the hurry of leaving the building, a box containing some $500 in specie was dropped outside, besides some $50 in scattered pieces.

A more definite statement than that given above, makes the loss of the Bank $21,562 in specie, of which about $9,000 was silver, besides foreign bills amounting to about $4,000, belonging to the Augusta Bank, and a package (value unknown) belonging to the Ticonic Bank.

The burglars have since been arrested and nearly all the money recovered.

BRANCH MINT IN NEW YORK.—The Common Council of New York City has authorized the special committee having this matter in charge, to visit the seat of government at Washington, for the purpose of urging upon Congress the necessity of establishing a mint in this city, and to negociate with the authorities in relation to the same. This course was rendered necessary by certain information received by the committee from the representatives of this city. From what we have been able to ascertain, there can be but little doubt that if the proper measures are adopted, the bill will become a law at the present session. As the passage of this bill is demanded alike by the commercial position of New York, and the interest of our citizens, no consideration of pecuniary expense should deter the city authorities from prosecuting it with vigor.—[*New York Courier and Enquirer.*]

AMERICAN STOCKS.—[*From the Circular of Barings & Co. dated 29 December*, 1848.]—The business has been limited during the past fortnight; the price of 98 per cent. ex. div., has been repeatedly paid for U. S. 6 per cent. stock ex. div.; but since the arrival of the steamer's letters to-day, holders refuse to sell at that rate. All State stock, and the market is scantily supplied, are firmly held at advanced prices, and it is not easy to quote rates at which purchases to any extent could be made.

NEW YORK BANKS.

Dividends of the New York City Banks, 1844—1849.

NAME OF BANK.	*Capital.*	1844.	1845.	1846.	1847.	1848.	1849.
Bank of America, .	$2,000,200	6	6	6½	7	7	Jan. 3½
Bank of Commerce, .	3,449,480	6	6	6	6½	7	" 4
Tradesmen's Bank, . .	400,000	10	10	10	15	10	" 5
Seventh Ward Bank, .	500,000	5	6	7	7	7½	" 4
Merchants Exchange, .	750,000	7	7	7½	8	8	" 4
North River Bank, . .	655,000	7	7	7	8	8	" 4
Phenix Bank, ...	1,200,000	6	6	6	6	6	" 3½
Chemical Bank, . . .	300,000	.	.	.	.	.	" 6
New York Dry Dock, .	200,000	.	.	.	.	.	" .
Leather Manufacturers,	600,000	7	7	7	7	7	Feb.
Manhattan Bank, . .	2,050,000	.	.	6	.	6	"
Butchers and Drovers, .	500,000	7½	7½	9	10	10	"
National Bank, . . .	750,000	6	6½	7	7½	8	April.
American Exchange, .	1,155,400	5½	6	6	7	7½	May.
Bank of New York, . .	1,000,000	8	7	8	10	10	"
Bank State of N. York,	2,000,000	5	6	6	6	6½	"
Bowery Bank, . . .	300,000	.	.	.	.	8	"
Mechanics Bank, . .	1,440,000	7	7½	8	8	8	"
City Bank, ...	720,000	7	7½	8	8	8	"
Union Bank, ...	1,000,000	8	8	8	10	10	"
Mechanics and Traders,	200,000	7	7	8	9½	10	"
Fulton Bank, ...	600,000	10	10	10	10	10	"
Greenwich Bank, . .	200,000	.	.	.	.	.	"
Mechanics B. Asso. . .	632,000	7	7	8	3½	7	June.
Merchants Bank, . .	1,490,000	7	8	8	8	8	"
25 Banks, Capital,	$24,092,080						

Dividends of the Baltimore Banks.

NAMES OF BANK.	*Capital.*	1847.	1848.	1849.
*Merchants' Bank,	$1,500,000	6	6	Jan. 3
*Chesapeake Bank,	340,577	6	6	" 3
Farmers and Planters Bank,	600,625	7	7	" 3½
Union Bank,	916,350	6	7	" 3
Western Bank,	308,280	6	6	" 3
*Franklin Bank,	301,850	.	6	" 3
*Farmers and Merchants Bank,	393,560	6½	6½	April.
Marine Bank,	310,000	7	7	"
Commercial and Farmers Bank,	512,560	8	8	May.
*Bank of Baltimore,	1,200,000	7	7	June.
Mechanics' Bank,	590,844	6½	7	"
11 Banks, Capital,	$6,974,646			

Those Banks marked with a star pay the taxes charged by the State and City. The others pay the State tax only, leaving their stockholders to be assessed individually.

Bank Dividends, January, 1849.

Bank of Kentucky, Louisville,	2½ per cent.
Northern Bank of Kentucky, Lexington,	4½ "
Bank of Louisville, Louisville,	4 "
*Bank of Virginia, Richmond,	3½ "
*Farmers Bank of Virginia, Richmond,	3½ "
*Exchange Bank of Virginia, Norfolk,	3½ "
Bank of the Valley, Winchester,	4½ "
*Bank of the State of Missouri, St. Louis,	5 "

*After paying the State tax of ¼ per cent.

NOTICE.—We have in type an additional article upon "Grace on Sight Bills" from the *Code Reporter*. It is excluded this month by a press of other materials.

TO CORRESPONDENTS.—Our correspondent at Salem will find on reference to other pages of the "Legal Miscellany" that the *demand* of payment must necessarily be made on the third day of grace: but that the *protest* or preparation of the document may be made at a subsequent day.

Our correspondent at Smyrna, Delaware, will find the information sought for, in the copious articles under the head "Legal Miscellany," in which we believe all the material points with reference to demand, notice, protest, &c. of Bills of Exchange are fully discussed.

COINS AND COINAGE.—The copious information in our present No. in relation to Coins and the Coinage, will no doubt be acceptable to our Bank readers. We are largely indebted to a volume entitled "A Manual of Gold and Silver Coins of all Nations," by Messrs. Eckfeldt and DuBois, assayers of the U. S. Mint. This volume is richly illustrated by engravings of Coins, executed by the medal-ruling machine, and under the direction of Mr. Saxton of the Mint. These engravings are among the most beautiful specimens of the art in this country. As a historical and statistical work it possesses great value and should have a place in every Bank. Published at the Mint in Philadelphia, 1842.

DEATHS.

AT NORFOLK, on Wednesday, 27th December, Eugene J. Higgins, Esq., President of the Branch Bank of Virginia.

AT NEW ALBANY, on the 29th November last, Mason C Fitch, Esq., President of the New Albany Branch of the State Bank of Indiana, in the 52d year of his age. Mr. Fitch had been President of this Branch from its organization in 1834, till his death.

Notes on the Money Market.

NEW YORK, 27 JANUARY, 1849.

We have evidences of an increased activity in the Money Market, as well as in the various channels of trade. Stocks have generally advanced 2 or 3 per cent. since our last quotations, and there is a more buoyant feeling among business men.

We thought the *California* fever had reached its height in the latter part of December, but there is at this moment more speculation and more solidity in the movements with reference to the Gold Regions of that distant section. A large emigration is now taking place from the several Atlantic Cities for San Francisco, and heavy shipments are making of merchandise, household goods, &c.

We cannot arrive at this time, at any fair estimate of the amount of Gold to be realized in California. It is entirely a matter of speculation and doubt. The California regions may produce thirty millions during the year, or it may be only ten millions. The discovery of large quantities of Gold is destined to effect important changes in the commercial and financial condition of our country. It is hardly credible that these deposits, great as they undoubtedly are, will prove so much beyond any which have been previously discovered in any part of the world, and produce any sudden or violent change in the value of Gold.

Whether the emigration into the new region be fifty or five hundred thousand, and whether they will establish a regular system of government, or be more or less lawless, with crime as abundant as Gold, are questions deeply interesting, but to which answers must be too conjectural to afford any basis for satisfactory conclusions.

The Committee of Ways and Means of the lower house of Congress have reported a Bill authorising the coinage of gold dollars. We do not consider any change in our coinage as at all desirable by the business community. Our silver and gold pieces are sufficiently numerous already and meet the wants of the people. It is of far more importance to establish speedily a Branch Mint in California, so as to obviate the present necessity of shipping gold dust and tran-shipping coin.

A Bill has been introduced in the Senate of Kentucky to repeal existing laws against the circulation of bank notes under five dollars. At the same time a Bill has been brought forward in the Legislature of New Jersey to prohibit the circulation of small notes; all such legislation is superfluous. The laws of various States prohibiting the circulation of small notes, have been totally disregarded by the people. If the currency be unsound, the people will refuse it; and if it be sound, their own convenience will induce them to adopt it. As long as the note is convertible into coin it serves a good purpose. A metallic currency is now an exploded notion, a relic of the age of barbarism. The people of this country, utilitarian to the extreme in their measures, will not now substitute a currency of metals for that of bills of exchange and bank notes.

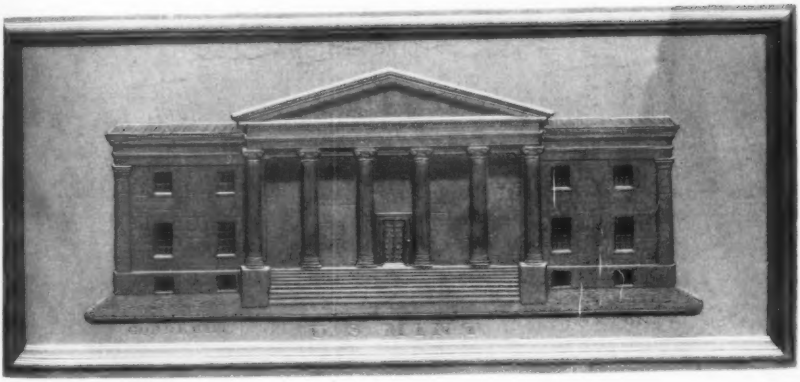
The Legislature of New York have a Bill before them to the following effect:

SEC. 1. Every draft or bill of exchange hereafter drawn or made payable at sight, shall be deemed and taken to be due and payable on presentment thereof, without grace.

SEC. 2. This act shall take effect immediately.

The Bill designating the holidays to be observed in the acceptance and payment of bills of exchange and promissory notes, names the 1st of January, the 4th of July, Thanksgiving and Christmas, as the days to be observed.

There is an increasing demand for money as the spring trade approaches. Paper of the best houses is sold in Wall Street at 7 to 8 per cent. Loans on prime securities at call, 6 per cent., and second rate paper 1 per cent. per month.

A large amount of the new government loan has been transferred to parties in Europe within the last month. Sales of U. S. sixes of 1868 at $109\frac{7}{8}$. Sales of Maryland six per cents. at 95, being an advance of 8 per cent. in the last twelve months.

Exchange on London, 60 days, $103\frac{1}{4}$ a $103\frac{3}{4}$.